

2012

**Toxics
Use
Reporting
Appendices**



**Developed in collaboration with the Office of Technical Assistance and Technology and the
Toxics Use Reduction Institute**

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**Appendix A: North American Industry Classification System (NAICS) Codes and
Standard Industrial Classification (SIC) Codes
Reportable Under the Massachusetts Toxics Use Reduction Act (46 - Digit)**

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
Metal Mining			
212210	Iron Ore Mining	1011	Iron Ores
212234	Copper Ore and Nickel Ore Mining	1021	Copper Ores
212231	Lead Ore and Zinc Ore Mining	1031	Lead and Zinc Ores
212221	Gold Ore Mining	1041	Gold Ores
212222	Silver Ore Mining	1044	Silver Ores
212234	Copper Ore and Nickel Ore Mining	1061	Ferroalloy Ores, Except Vanadium (nickel)
212299	All Other Metal Ore Mining	1061	Ferroalloy Ores, Except Vanadium (other ferroalloys except nickel)
213114	Support Activities for Metal Mining	1081	Metal Mining Services (except site preparation and related activities performed on a contract or fee basis and geophysical surveying and mapping)
238910	Site Preparation Contractors	1081	Metal Mining Services (site preparation and related construction activities on a contract basis)
541360	Geophysical Surveying and Mapping Services	1081	Metal Mining Services (geophysical surveying and mapping)
212291	Uranium-Radium-Vanadium Ore Mining	1094	Uranium-Radium-Vanadium Ores
212299	All Other Metal Ore Mining	1099	Miscellaneous Metal Ores, NEC
Coal Mining			
212111	Bituminous Coal and Lignite Surface Mining	1221	Bituminous Coal and Lignite Surface Mining
212112	Bituminous Coal Underground Mining	1222	Bituminous Coal Underground Mining
212113	Anthracite Mining	1231	Anthracite Mining
213113	Support Activities for Coal Mining	1241	Coal Mining Services (except site preparation and related construction activities on a contract basis)
238910	Site Preparation Contractors	1241	Coal Mining Services (site preparation and related construction activities on a contract basis)
Oil and Extraction Gas			
211111	Crude Petroleum and Natural Gas Extraction	1311	Crude Petroleum and Natural Gas
211112	Natural Gas Liquid Extraction	1321	Natural Gas Liquids

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
213111	Drilling Oil and Gas Wells	1381	Drilling Oil and Gas Wells
213112	Support Activities for Oil and Gas Operations	1382	Oil and Gas Field Exploration Services (except geophysical mapping and surveying)
541360	Geophysical Surveying and Mapping Services	1382	Oil and Gas Field Exploration Services (geophysical surveying and mapping)
213112	Support Activities for Oil and Gas Operations	1389	Oil and Gas Field Services, NEC (except construction of field gathering lines, site preparation and related construction activities performed on a contract or fee basis)
237120	Oil and Gas Pipeline and Related Structures Construction	1389	Oil and Gas Field Services, NEC (construction of field gathering lines on a contract or fee basis)
238910	Site Preparation Contractors	1389	Oil and Gas Field Services, NEC (site preparation and related construction activities on a contract basis)
Non Metallic Minerals, Except Fuels			
212311	Dimension Stone Mining and Quarrying	1411	Dimension Stone
212312	Crushed and Broken Limestone Mining and Quarrying	1422	Crushed and Broken Limestone
212313	Crushed and Broken Granite Mining and Quarrying	1423	Crushed and Broken Granite
212319	Other Crushed and Broken Stone Mining and Quarrying	1429	Crushed and Broken Stone, NEC
212321	Construction Sand and Gravel Mining	1442	Construction Sand and Gravel
212322	Industrial Sand Mining	1446	Industrial Sand
212324	Kaolin and Ball Clay Mining	1455	Kaolin and Ball Clay
212325	Clay and Ceramic and Refractory Minerals Mining	1459	Clay, Ceramic, and Refractory Minerals, NEC
212391	Potash, Soda, and Borate Mineral Mining	1474	Potash, Soda, and Borate Minerals
212392	Phosphate Rock Mining	1475	Phosphate Rock
212393	Other Chemical and Fertilizer Mineral Mining	1479	Chemical and Fertilizer Mineral Mining, NEC
213115	Support Activities for Nonmetallic Minerals (except Fuels)	1481	Nonmetallic Minerals Services, Except Fuels (except geophysical surveying and mapping and site preparation and related construction activities performed on a contract or fee basis)
238910	Site Preparation Contractors	1481	Nonmetallic Minerals Services, Except Fuels (site preparation and related construction activities on a contract basis)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
541360	Geophysical Surveying and Mapping Services	1481	Nonmetallic Minerals Services, Except Fuels (geophysical surveying and mapping)
212319	Other Crushed and Broken Stone Mining and Quarrying	1499	Miscellaneous Nonmetallic Minerals, Except Fuels (bituminous limestone and bituminous sandstone)
212399	All Other Nonmetallic Mineral Mining	1499	Miscellaneous Nonmetallic Minerals, Except Fuels (except bituminous limestone and bituminous sandstone)
Food and Kindred Products			
311611	Animal (except Poultry) Slaughtering	2011	Meat Packing Plants
311612	Meat Processed from Carcasses	2013	Sausages and Other Prepared Meat Products (except lard made from purchased materials)
311613	Rendering and Meat Byproduct Processing	2013	Sausages and Other Prepared Meat Products (lard made from purchased materials)
311615	Poultry Processing	2015	Poultry Slaughtering and Processing (poultry slaughtering and processing)
311999	All Other Miscellaneous Food Manufacturing	2015	Poultry Slaughtering and Processing (egg processing)
311512	Creamery Butter Manufacturing	2021	Creamery Butter
311513	Cheese Manufacturing	2022	Natural, Processed, and Imitation Cheese
311511	Fluid Milk Manufacturing	2023	Dry, Condensed and Evaporated Dairy Products (liquid non-dairy creamer)
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	2023	Dry, Condensed and Evaporated Dairy Products (except liquid non-dairy creamer)
311520	Ice Cream and Frozen Dessert Manufacturing	2024	Ice Cream and Frozen Desserts
311511	Fluid Milk Manufacturing	2026	Fluid Milk (except ultra-high temperature)
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing	2026	Fluid Milk (ultra-high temperature)
311422	Specialty Canning	2032	Canned Specialties (except canned puddings)
311999	All Other Miscellaneous Food Manufacturing	2032	Canned Specialties (canned puddings)
311421	Fruit and Vegetable Canning	2033	Canned Fruits, Vegetables, Preserves, Jams, and Jellies
311211	Flour Milling	2034	Dried and Dehydrated Fruits, Vegetables and Soup Mixes (vegetable flour)
311423	Dried and Dehydrated Food Manufacturing	2034	Dried and Dehydrated Fruits, Vegetables and Soup Mixes (except vegetable flour and soup mixes made from purchased dried and dehydrated ingredients)
311999	All Other Miscellaneous Food Manufacturing	2034	Dried and Dehydrated Fruits, Vegetables, and Soup Mixes (soup mixes made from purchased dehydrated ingredients)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
311421	Fruit and Vegetable Canning	2035	Pickled Fruits and Vegetables, Vegetable Sauces and Seasonings, and Salad Dressings (pickled fruits and vegetables)
311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing	2035	Pickled Fruits and Vegetables, Vegetable Sauces and Seasonings, and Salad Dressings (sauces and salad dressings)
311411	Frozen Fruit, Juice, and Vegetable Manufacturing	2037	Frozen Fruits, Fruit Juices, and Vegetables
311412	Frozen Specialty Food Manufacturing	2038	Frozen Specialties, NEC
311211	Flour Milling	2041	Flour and Other Grain Mill Products
311230	Breakfast Cereal Manufacturing	2043	Cereal Breakfast Foods (cereal breakfast foods and related preparations except grain based coffee substitutes)
311920	Coffee and Tea Manufacturing	2043	Cereal Breakfast Foods (grain based coffee substitutes)
311212	Rice Milling	2044	Rice Milling
311822	Flour Mixes and Dough Manufacturing from Purchased Flour	2045	Prepared Flour Mixes and Doughs
311221	Wet Corn Milling	2046	Wet Corn Milling (except refining purchased corn oil)
311225	Fats and Oils Refining and Blending	2046	Wet Corn Milling (refining purchased corn oil)
311111	Dog and Cat Food Manufacturing	2047	Dog and Cat Food
311119	Other Animal Food Manufacturing	2048	Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats (except slaughtering animals for pet food)
311611	Animal (except Poultry) Slaughtering	2048	Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats (slaughtering animals for pet food)
311812	Commercial Bakeries	2051	Bread and Other Bakery Products, Except Cookies and Crackers
311812	Commercial Bakeries	2052	Cookies and Crackers (unleavened bread and soft pretzels)
311821	Cookie and Cracker Manufacturing	2052	Cookies and Crackers (except unleavened bread and pretzels)
311919	Other Snack Food Manufacturing	2052	Cookies and Crackers (hard pretzels and snack pretzels, except soft)
311813	Frozen Cakes, Pies, and Other Pastries Manufacturing	2053	Frozen Bakery Products, Except Bread
311311	Sugarcane Mills	2061	Cane Sugar, Except Refining
311312	Cane Sugar Refining	2062	Cane Sugar Refining
311313	Beet Sugar Manufacturing	2063	Beet Sugar
311330	Confectionery Manufacturing from Purchased Chocolate	2064	Candy and Other Confectionery Products (chocolate confectionery)
311340	Nonchocolate Confectionery Manufacturing	2064	Candy and Other Confectionery Products (nonchocolate confectionery)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
311320	Chocolate and Confectionery Manufacturing from Cacao Beans	2066	Chocolate and Cocoa Products (except chocolate products, made from purchased chocolate)
311330	Confectionery Manufacturing from Purchased Chocolate	2066	Chocolate and Cocoa Products (chocolate products made from purchased chocolate)
311340	Nonchocolate Confectionery Manufacturing	2067	Chewing Gum
311911	Roasted Nuts and Peanut Butter Manufacturing	2068	Salted and Roasted Nuts and Seeds
311223	Other Oilseed Processing	2074	Cottonseed Oil Mills (cottonseed processing)
311225	Fats and Oils Refining and Blending	2074	Cottonseed Oil Mills (processing purchased cottonseed oil)
311222	Soybean Processing	2075	Soybean Oil Mills (soybean processing, except edible soybean oil)
311225	Fats and Oils Refining and Blending	2075	Soybean Oil Mills (processing purchased soybean oil)
311223	Other Oilseed Processing	2076	Vegetable Oil Mills, Except Corn, Cottonseed, and Soybean (oilseed processing)
311225	Fats and Oils Refining and Blending	2076	Vegetable Oil Mills, Except Corn, Cottonseed, and Soybean (processing purchased vegetable and oilseed oils)
311613	Rendering and Meat Byproduct Processing	2077	Animal and Marine Fats and Oils (animal fats and oils)
311711	Seafood Canning	2077	Animal and Marine Fats and Oils (canned marine fats and oils)
311712	Fresh and Frozen Seafood Processing	2077	Animal and Marine Fats and Oils (fresh and frozen marine fats and oils)
311222	Soybean Processing	2079	Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC (processing soybean oil into edible cooking oils from soybeans crushed in the same establishment)
311223	Other Oilseed Processing	2079	Shortening, Table Oils, Margarine and Other Edible Fats and Oils, NEC (processing vegetable oils, except soybean, into edible cooking oils from oilseeds and vegetables crushed in the same establishment)
311225	Fats and Oils Refining and Blending	2079	Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, NEC (except processing vegetable and soybean oils into edible oils from oilseeds and vegetables crushed in the same establishment)
311942	Spice and Extract Manufacturing	2082	Malt Beverages (malt extract)
312120	Breweries	2082	Malt Beverages (except malt extract)
311213	Malt Manufacturing	2083	Malt
312130	Wineries	2084	Wines, Brandy, and Brandy Spirits
312130	Wineries	2085	Distilled and Blended Liquors (apple jack)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
312140	Distilleries	2085	Distilled and Blended Liquors (except apple jack)
312111	Soft Drink Manufacturing	2086	Bottled and Canned Soft Drinks and Carbonated Water (except bottled water)
312112	Bottled Water Manufacturing	2086	Bottled and Canned Soft Drinks and Carbonated Water (bottled water)
311920	Coffee and Tea Manufacturing	2087	Flavoring Extracts and Flavoring Syrups, NEC (coffee flavoring and syrups)
311930	Flavoring Syrup and Concentrate Manufacturing	2087	Flavoring Extracts and Flavoring Syrups, NEC (flavoring syrups and concentrates except coffee)
311942	Spice and Extract Manufacturing	2087	Flavoring Extracts and Flavoring Syrups, NEC (flavoring extracts and natural food colorings)
311999	All Other Miscellaneous Food Manufacturing	2087	Flavoring Extracts and Flavoring Syrups, NEC (powered drink mix)
311711	Seafood Canning	2091	Canned and Cured Fish and Seafoods
311712	Fresh and Frozen Seafood Processing	2092	Prepared Fresh or Frozen Fish and Seafoods
311920	Coffee and Tea Manufacturing	2095	Roasted Coffee
311919	Other Snack Food Manufacturing	2096	Potato Chips, Corn Chips, and Similar Snacks
312113	Ice Manufacturing	2097	Manufactured Ice
311823	Dry Pasta Manufacturing	2098	Macaroni, Spaghetti, Vermicelli and Noodles
111998	All Other Miscellaneous Crop Farming	2099	Food Preparations, NEC (reducing maple sap to maple syrup)
311212	Rice Milling	2099	Food Preparations, NEC (rice, uncooked and packaged with other ingredients made in rice mills)
311340	Nonchocolate Confectionery Manufacturing	2099	Food Preparations, NEC (marshmallow creme)
311423	Dried and Dehydrated Food Manufacturing	2099	Food Preparations, NEC (bouillon and potatoes dried and packaged with other ingredients produced in dehydrating plants)
311823	Dry Pasta Manufacturing	2099	Food Preparations, NEC (dry pasta packaged with other ingredients made in dry pasta plants)
311830	Tortilla Manufacturing	2099	Food Preparations, NEC (tortillas)
311911	Roasted Nuts and Peanut Butter Manufacturing	2099	Food Preparations, NEC (peanut butter)
311920	Coffee and Tea Manufacturing	2099	Food Preparations, NEC (tea)
311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing	2099	Food Preparations, NEC (vinegar, prepared dip)
311942	Spice and Extract Manufacturing	2099	Food Preparations, NEC (spices, dry dip mix, dry salad dressing mix, and seasoning mix)
311991	Perishable Prepared Food Manufacturing	2099	Food Preparations, NEC (perishable prepared food)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
311999	All Other Miscellaneous Food Manufacturing	2099	Food Preparations, NEC (except bouillon, marshmallow creme, spices, peanut butter, perishable prepared foods, tortillas, tea and tea extracts, dry dip mix, prepared dips, dry salad dressing mix, seasoning mix, dried potatoes, pasta, and rice mixed with other ingredients in mills or dehydrating plants, reducing maple sap to maple syrup, wool grease, and vinegar)
Tobacco Products			
312221	Cigarette Manufacturing	2111	Cigarettes
312229	Other Tobacco Product Manufacturing	2121	Cigars
312229	Other Tobacco Product Manufacturing	2131	Chewing and Smoking Tobacco and Snuff
312210	Tobacco Stemming and Redrying	2141	Tobacco Stemming and Redrying (stemming and redrying tobacco)
312229	Other Tobacco Product Manufacturing	2141	Tobacco Stemming and Redrying (reconstituted tobacco)
Textile Mill Products			
313210	Broadwoven Fabric Mills	2211	Broadwoven Fabric Mills, Cotton
313210	Broadwoven Fabric Mills	2221	Broadwoven Fabric Mills, Manmade Fiber and Silk
313210	Broadwoven Fabric Mills	2231	Broadwoven Fabric Mills, Wool (Including Dyeing and Finishing) (except finishing wool fabric without weaving wool fabric)
313311	Broadwoven Fabric Finishing Mills	2231	Broadwoven Fabric Mills, Wool (wool broadwoven fabric finishing without weaving fabric)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2231	Broadwoven Fabric Mills, Wool (wool fabric, except broadwoven, finishing without weaving fabric)
313221	Narrow Fabric Mills	2241	Narrow Fabric and Other Smallware Mills: Cotton, Wool, Silk and Manmade Fiber
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2251	Women's Full-Length and Knee-Length Hosiery, Except Socks (dyeing and finishing sheer hosiery without knitting sheer hosiery)
315111	Sheer Hosiery Mills	2251	Women's Full-Length and Knee-Length Hosiery, Except Socks (except dyeing and finishing sheer hosiery without knitting sheer hosiery)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2252	Hosiery, NEC (dyeing and finishing hosiery , except sheer, without knitting hosiery)
315111	Sheer Hosiery Mills	2252	Hosiery, NEC (girls' full length and knee length sheer hosiery)
315119	Other Hosiery and Sock Mills	2252	Hosiery, NEC (except girls' full-length and knee-length sheer hosiery and dyeing and finishing hosiery without knitting hosiery)
313312	Textile and Fabric Finishing (except	2253	Knit Outerwear Mills (dyeing and finishing knit outerwear without knitting outerwear)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Broadwoven Fabric) Mills		
315191	Outerwear Knitting Mills	2253	Knit Outerwear Mills (except bath and lounging robes and dying and finish without knitting garments)
315192	Underwear and Nightwear Knitting Mills	2253	Knit Outerwear Mills (knitting bath or lounging robes)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2254	Knit Underwear and Nightwear Mills (dyeing and finishing underwear and nightwear without knitting garments)
315192	Underwear and Nightwear Knitting Mills	2254	Knit Underwear and Nightwear Mills (except dyeing and finishing underwear and nightwear without knitting garments)
313241	Weft Knit Fabric Mills	2257	Weft Knit Fabric Mills (except finishing without knitting weft fabric)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2257	Weft Knit Fabric Mills (finishing weft fabric without knitting weft fabric)
313249	Other Knit Fabric and Lace Mills	2258	Lace and Warp Knit Fabric Mills (except finishing lace or warp fabric without knitting lace or warp fabric)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2258	Lace and Warp Knit Fabric Mills (finishing lace or warp fabric without knitting lace or warp fabric)
313241	Weft Knit Fabric Mills	2259	Knitting Mills, NEC (knitting weft fabric and fabricating textile products, such as bedspreads, curtains, or towels)
313249	Other Knit Fabric and Lace Mills	2259	Knitting Mills, NEC (knitting lace or warp fabric and fabricating textile products, such as bedspreads, curtains, or towels)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2259	Knitting Mills, NEC (dyeing and finishing knit gloves and mittens without knitting gloves or mittens)
315191	Outerwear Knitting Mills	2259	Knitting Mills, NEC (knitting gloves and mittens)
315192	Underwear and Nightwear Knitting Mills	2259	Knitting Mills, NEC (knitting girdles and allied foundation garments)
313311	Broadwoven Fabric Finishing Mills	2261	Finishers of Broadwoven Fabrics of Cotton
313311	Broadwoven Fabric Finishing Mills	2262	Finishers of Broadwoven Fabrics of Manmade Fiber and Silk
313311	Broadwoven Fabric Finishing Mills	2269	Finishers of Textiles, NEC (linen fabric finishing)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2269	Finishers of Textiles, NEC (except linen fabric finishing)
314110	Carpet and Rug Mills	2273	Carpets and Rugs
313111	Yarn Spinning Mills	2281	Yarn Spinning Mills
313112	Yarn Texturing, Throwing, and Twisting Mills	2282	Yarn Texturizing, Throwing, Twisting and Winding Mills
313113	Thread Mills	2284	Thread Mills (except finishing thread without manufacturing thread)
313312	Textile and Fabric Finishing (except	2284	Thread Mills (finishing thread without manufacturing thread)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Broadwoven Fabric) Mills		
313320	Fabric Coating Mills	2295	Coated Fabrics, Not Rubberized
314992	Tire Cord and Tire Fabric Mills	2296	Tire Cord and Fabrics
313230	Nonwoven Fabric Mills	2297	Nonwoven Fabrics
313111	Yarn Spinning Mills	2298	Cordage and Twine (hemp rope made in spinning mills)
314991	Rope, Cordage, and Twine Mills	2298	Cordage and Twine (except hemp rope made in spinning mills)
313111	Yarn Spinning Mills	2299	Textile Goods, NEC (hemp bags made in spinning mills)
313111	Yarn Spinning Mills	2299	Textile Goods, NEC (spinning yarn of flax, hemp, jute, and ramie)
313113	Thread Mills	2299	Textile Goods, NEC (manufacturing thread of hemp, linen, and ramie)
313210	Broadwoven Fabric Mills	2299	Textile Goods, NEC (broadwoven fabrics of jute, linen, hemp, and ramie and hand woven fabrics)
313221	Narrow Fabric Mills	2299	Textile Goods, NEC (narrow woven fabric of jute, linen, hemp, and ramie)
313230	Nonwoven Fabric Mills	2299	Textile Goods, NEC (nonwoven felt)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	2299	Textile Goods, NEC (finishing hard fiber thread and yarn without manufacturing thread or yarn)
314999	All Other Miscellaneous Textile Product Mills	2299	Textile Goods, NEC (manufacturing other textile products)
Apparel and Other Textile Products			
315211	Men's and Boys' Cut and Sew Apparel Contractors	2311	Men's and Boys' Suits, Coats, and Overcoats (contractors)
315222	Men's and Boys' Cut and Sew Suit, Coat and Overcoat Manufacturing	2311	Men's and Boys' Suits, Coats, and Overcoats (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2321	Men's and Boys' Shirts, Except Work Shirts (contractors)
315223	Men's and Boys' Cut and Sew Shirt (except Work Shirt) Manufacturing	2321	Men's and Boys' Shirts, Except Work Shirts (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2322	Men's and Boys' Underwear and Nightwear (contractors)
315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	2322	Men's and Boys' Underwear and Nightwear (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2323	Men's and Boys' Neckwear (contractors)
315993	Men's and Boys' Neckwear Manufacturing	2323	Men's and Boys' Neckwear (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2325	Men's and Boys' Separate Trousers and Slacks (contractors)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
315224	Men's and Boys' Cut and Sew Trouser, Slack and Jean Manufacturing	2325	Men's and Boys' Separate Trousers and Slacks (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2326	Men's and Boys' Work Clothing (contractors)
315225	Men's and Boys' Cut and Sew Work Clothing Manufacturing	2326	Men's and Boys' Work Clothing (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2329	Men's and Boys' Clothing, NEC (contractors)
315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	2329	Men's and Boys' Clothing, NEC (except team athletic uniforms and contractors)
315299	All Other Cut and Sew Apparel Manufacturing	2329	Men's and Boys' Clothing, NEC (team athletic uniforms except contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2331	Women's, Misses', and Juniors' Blouses and Shirts (contractors)
315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing	2331	Women's, Misses', and Juniors' Blouses and Shirts (except contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2335	Women's, Misses', and Juniors' Dresses (contractors)
315233	Women's and Girls' Cut and Sew Dress Manufacturing	2335	Women's, Misses', and Juniors' Dresses (except contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2337	Women's, Misses', and Juniors' Suits, Skirts, and Coats (contractors)
315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing	2337	Women's, Misses', and Juniors' Suits, Skirts, and Coats (except contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2339	Women's, Misses', and Juniors' Outerwear, NEC (contractors)
315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing	2339	Women's, Misses', and Juniors' Outerwear, NEC (except team athletic uniforms, scarves, and contractors)
315299	All Other Cut and Sew Apparel Manufacturing	2339	Women's, Misses', and Juniors' Outerwear, NEC (team athletic uniforms except contractors)
315999	Other Apparel Accessories and Other Apparel Manufacturing	2339	Women's, Misses', and Juniors' Outerwear, NEC (scarves except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2341	Women's, Misses', Children's, and Infants' Underwear and Nightwear (boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2341	Women's, Misses', Children's, and Infants' Underwear and Nightwear (women's, girls', and infants' contractors)
315221	Men's and Boys' Cut and Sew Underwear and	2341	Women's, Misses', Children's, and Infants' Underwear and Nightwear (boys' except

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Nightwear Manufacturing		contractors)
315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	2341	Women's, Misses', Children's, and Infants' Underwear and Nightwear (women and girls' except contractors)
315291	Infants' Cut and Sew Apparel Manufacturing	2341	Women's, Misses', Children's, and Infants' Underwear and Nightwear (infants' except contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2342	Brassieres, Girdles, and Allied Garments (contractors)
315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	2342	Brassieres, Girdles, and Allied Garments (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2353	Hats, Caps, and Millinery (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2353	Hats, Caps, and Millinery (women's, girls', and infants' contractors)
315991	Hat, Cap, and Millinery Manufacturing	2353	Hats, Caps, and Millinery (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (girls' and infants' contractors)
315223	Men's and Boys' Cut and Sew Shirt (except Work Shirt) Manufacturing	2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (boys' shirts except contractors)
315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing	2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (girls' blouses and shirts except contractors)
315233	Women's and Girls' Cut and Sew Dress Manufacturing	2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (girls' dresses except contractors)
315291	Infants' Cut and Sew Apparel Manufacturing	2361	Girls', Children's, and Infants' Dresses, Blouses, and Shirts (infants' except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2369	Girls', Children's, and Infants' Outerwear, NEC (boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2369	Girls', Children's, and Infants' Outerwear, NEC (girls' and infants' contractors)
315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (boys' robes except contractors)
315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (boys' suits and coats except contractors)
315224	Men's and Boys' Cut and Sew Trouser, Slack and Jean Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (boys' trousers, slacks, and jeans except contractors)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (boys' other outerwear except contractors)
315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (girls' robes except contractors)
315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (girls' suits, coats, jackets, and skirts except contractors)
315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (girls' other outerwear except contractors)
315291	Infants' Cut and Sew Apparel Manufacturing	2369	Girls', Children's, and Infants' Outerwear, NEC (infants' except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2371	Fur Goods (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2371	Fur Goods (women's, girls', and infants' contractors)
315292	Fur and Leather Apparel Manufacturing	2371	Fur Goods (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2381	Dress and Work Gloves, Except Knit and All-Leather (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2381	Dress and Work Gloves, Except Knit and All-Leather (women's, girls', and infants' contractors)
315992	Glove and Mitten Manufacturing	2381	Dress and Work Gloves, Except Knit and All-Leather (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2384	Robes and Dressing Gowns (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2384	Robes and Dressing Gowns (women's, girls', and infants' contractors)
315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing	2384	Robes and Dressing Gowns (men's except contractors)
315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	2384	Robes and Dressing Gowns (women's except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2385	Waterproof Outerwear (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2385	Waterproof Outerwear (women's, girls', and infants' contractors)
315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing	2385	Waterproof Outerwear (men's and boys' water resistant or water repellent tailored overcoats, except made from rubberized fabric, plastics, etc. and contractors)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing	2385	Waterproof Outerwear (men's and boys' water resistant or water repellent nontailored outerwear, except made from rubberized fabric, plastics, etc. and contractors)
315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing	2385	Waterproof Outerwear (women's and girls' water resistant or water repellent tailored coats, except made from rubberized fabric, plastics, etc. and contractors)
315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing	2385	Waterproof Outerwear (other women's and girls' water resistant or water repellent nontailored outerwear, except made from rubberized fabric, plastics, etc. and contractors)
315291	Infants' Cut and Sew Apparel Manufacturing	2385	Waterproof Outerwear (infants' waterproof outerwear made from rubberized fabric, plastics, etc. except contractors)
315299	All Other Cut and Sew Apparel Manufacturing	2385	Waterproof Outerwear (men's, boys', women's, and girls' waterproof outerwear made from rubberized fabric, plastics, etc. except contractors)
315999	Other Apparel Accessories and Other Apparel Manufacturing	2385	Waterproof Outerwear (accessories, such as aprons, bibs, and other miscellaneous waterproof items, made from rubberized fabric, plastics, etc. except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2386	Leather and Sheep-Lined Clothing (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2386	Leather and Sheep-Lined Clothing (women's, girls', and infants' contractors)
315292	Fur and Leather Apparel Manufacturing	2386	Leather and Sheep-lined Clothing (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2387	Apparel Belts (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2387	Apparel Belts (women's, girls', and infants' contractors)
315999	Other Apparel Accessories and Other Apparel Manufacturing	2387	Apparel Belts (except contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2389	Apparel and Accessories, NEC (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2389	Apparel and Accessories, NEC (women's, girls', and infants' contractors)
315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing	2389	Apparel and Accessories, NEC (garters and garter belts except contractors)
315299	All Other Cut and Sew Apparel Manufacturing	2389	Apparel and Accessories, NEC (apparel, such as academic gowns, clerical outerwear, and band uniforms, except contractors)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
315999	Other Apparel Accessories and Other Apparel Manufacturing	2389	Apparel and Accessories, NEC (accessories such as, handkerchiefs, arm bands, cummerbunds, suspenders, etc., except contractors)
314121	Curtain and Drapery Mills	2391	Curtains and Draperies
314129	Other Household Textile Product Mills	2392	Housefurnishings, Except Curtains and Draperies (except mops, dust rags, and bags)
314911	Textile Bag Mills	2392	Housefurnishings, Except Curtains and Draperies (blanket, laundry, and wardrobe bags)
314999	All Other Miscellaneous Textile Product Mills	2392	Housefurnishings, Except Curtains and Draperies (dust rags)
339994	Broom, Brush, and Mop Manufacturing	2392	Housefurnishings, Except Curtains and Draperies (floor and dust mops)
314911	Textile Bag Mills	2393	Textile Bags
314912	Canvas and Related Product Mills	2394	Canvas and Related Products
314999	All Other Miscellaneous Textile Product Mills	2395	Pleating, Decorative and Novelty Stitching, and Tucking for the Trade (except apparel contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2395	Pleating, Decorative and Novelty Stitching, and Tucking for the Trade (men's and boy's apparel contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2395	Pleating, Decorative and Novelty Stitching, and Tucking for the Trade (women's, girls', and infants' apparel contractors)
314999	All Other Miscellaneous Textile Product Mills	2396	Automotive Trimmings, Apparel Findings, and Related Products (textile products except automotive and apparel trimmings and findings, printing or embossing on apparel, and contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2396	Automotive Trimmings, Apparel Findings, and Related Products (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2396	Automotive Trimmings, Apparel Findings, and Related Products (women's, girls', and infants' contractors)
315999	Other Apparel Accessories and Other Apparel Manufacturing	2396	Automotive Trimmings, Apparel Findings, and Related Products (apparel findings and trimmings, except contractors)
323113	Commercial Screen Printing	2396	Automotive Trimmings, Apparel Findings, and Related Products (printing and embossing on fabric articles)
336360	Motor Vehicle Seating and Interior Trim Manufacturing	2396	Automotive Trimmings, Apparel Findings, and Related Products (textile motor vehicle trimming except contractors)
313222	Schiffli Machine Embroidery	2397	Schiffli Machine Embroideries
314999	All Other Miscellaneous Textile Product Mills	2399	Fabricated Textile Products, NEC (except apparel and accessories, automotive seat belts, seat and tire covers, and contractors)
315211	Men's and Boys' Cut and Sew Apparel Contractors	2399	Fabricated Textile Products, NEC (men's and boys' contractors)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	2399	Fabricated Textile Products, NEC (women's, girls', and infants' contractors)
315999	Other Apparel Accessories and Other Apparel Manufacturing	2399	Fabricated Textile Products, NEC (apparel and apparel accessories, except contractors)
336360	Motor Vehicle Seating and Interior Trim Manufacturing	2399	Fabricated Textile Products, NEC (seat belts, and seat and tire covers)
Lumber and Wood Products			
113310	Logging	2411	Logging
321113	Sawmills	2421	Sawmills and Planing Mills, General (sawmills)
321912	Cut Stock, Resawing Lumber, and Planing	2421	Sawmills and Planing Mills, General (lumber manufacturing from purchased lumber, softwood cut stock, wood lath, fence pickets, and planing mill products)
321918	Other Millwork (including Flooring)	2421	Sawmills and Planing Mills, General (softwood flooring)
321920	Wood Container and Pallet Manufacturing	2421	Sawmills and Planing Mills, General (box lumber made from purchased lumber)
321999	All Other Miscellaneous Wood Product Manufacturing	2421	Sawmills and Planing Mills, General (kiln drying)
321113	Sawmills	2426	Hardwood Dimension and Flooring Mills (hardwood dimension lumber made from logs or bolts)
321912	Cut Stock, Resawing Lumber, and Planing	2426	Hardwood Dimension and Flooring Mills (hardwood cut stock, resawing hardwood lumber, and planing purchased hardwood lumber except flooring)
321918	Other Millwork (including Flooring)	2426	Hardwood Dimension and Flooring Mills (hardwood flooring)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	2426	Hardwood Dimension and Flooring Mills (wood furniture frames and finished furniture parts)
321113	Sawmills	2429	Special Product Sawmills, NEC (shingle mills, shakes)
321920	Wood Container and Pallet Manufacturing	2429	Special Product Sawmills, Not Elsewhere Classified (cooperage stock)
321999	All Other Miscellaneous Wood Product Manufacturing	2429	Special Product Sawmills, NEC (excelsior)
321911	Wood Window and Door Manufacturing	2431	Millwork (wood windows and doors)
321918	Other Millwork (including Flooring)	2431	Millwork (except wood doors and windows)
337110	Wood Kitchen Cabinet and Countertop Manufacturing	2434	Wood Kitchen Cabinets
321211	Hardwood Veneer and	2435	Hardwood Veneer and Plywood

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
321212	Plywood Manufacturing Softwood Veneer and Plywood Manufacturing	2436	Softwood Veneer and Plywood
321213	Engineered Wood Member (except Truss) Manufacturing	2439	Structural Wood Members, NEC (except trusses)
321214	Truss Manufacturing	2439	Structural Wood Members, NEC (trusses)
321920	Wood Container and Pallet Manufacturing	2441	Nailed and Lock Corner Wood Boxes and Shook
321920	Wood Container and Pallet Manufacturing	2448	Wood Pallets and Skids
321920	Wood Container and Pallet Manufacturing	2449	Wood Containers, NEC
321991	Manufactured Home (Mobile Home) Manufacturing	2451	Mobile Homes
321992	Prefabricated Wood Building Manufacturing	2452	Prefabricated Wood Buildings and Components
321114	Wood Preservation	2491	Wood Preserving
321219	Reconstituted Wood Product Manufacturing	2493	Reconstituted Wood Products
321920	Wood Container and Pallet Manufacturing	2499	Wood Products, NEC (wood containers, such as noncoopered vats and reed or straw baskets)
321999	All Other Miscellaneous Wood Product Manufacturing	2499	Wood Products, NEC (except wood containers, wood cooling towers, cork life preservers, mirror or picture frames, and laundry hampers of reed, rattan, and willow)
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	2499	Wood Products, NEC (wood cooling towers)
337125	Household Furniture (except Wood and Metal) Manufacturing	2499	Wood Products, NEC (laundry hampers of reed, rattan, and willow)
339113	Surgical Appliance and Supplies Manufacturing	2499	Wood Products, NEC (cork life preservers)
339999	All Other Miscellaneous Manufacturing	2499	Wood Products, NEC (mirror and picture frames)
Furniture and Fixtures			
337122	Nonupholstered Wood Household Furniture Manufacturing	2511	Wood Household Furniture, Except Upholstered (except wood box spring frames)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	2511	Wood Household Furniture, Except Upholstered (wood box spring frames(parts))
337121	Upholstered Household Furniture Manufacturing	2512	Wood Household Furniture, Upholstered
337121	Upholstered Household Furniture Manufacturing	2514	Metal Household Furniture (upholstered)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
337124	Metal Household Furniture Manufacturing	2514	Metal Household Furniture (except upholstered metal furniture and metal box spring frames)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	2514	Metal Household Furniture (metal box spring frames)
337121	Upholstered Household Furniture Manufacturing	2515	Mattresses, Foundations, and Convertible Beds (convertible beds)
337910	Mattress Manufacturing	2515	Mattresses, Foundations, and Convertible Beds (mattresses and foundations)
337129	Wood Television, Radio, and Sewing Machine Cabinet Manufacturing	2517	Wood Television, Radio, Phonograph, and Sewing Machine Cabinets
337125	Household Furniture (except Wood and Metal) Manufacturing	2519	Household Furniture, NEC
337211	Wood Office Furniture Manufacturing	2521	Wood Office Furniture
337214	Office Furniture (except Wood) Manufacturing	2522	Office Furniture, Except Wood
336360	Motor Vehicle Seating and Interior Trim Manufacturing	2531	Public Building and Related Furniture (seats for motor vehicles)
337127	Institutional Furniture Manufacturing	2531	Public Building and Related Furniture (except motor vehicle seats and blackboards)
339942	Lead Pencil and Art Good Manufacturing	2531	Public Building and Related Furniture (blackboards)
337110	Wood Kitchen Cabinet and Countertop Manufacturing	2541	Wood Office and Store Fixtures, Partitions, Shelving, and Lockers (counter tops)
337127	Institutional Furniture Manufacturing	2541	Wood Office and Store Fixtures, Partitions, Shelving, and Lockers (wood lunchroom tables and chairs)
337212	Custom Architectural Woodwork and Millwork Manufacturing	2541	Wood Office and Store Fixtures, Partitions, Shelving, and Lockers (custom architectural millwork)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	2541	Wood Office and Store Fixtures, Partitions, Shelving, and Lockers (except custom architectural millwork, counter tops, and lunchroom tables and chairs)
337127	Institutional Furniture Manufacturing	2542	Office and Store Fixtures, Partitions, Shelving, and Lockers, Except Wood (lunchroom tables and chairs)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	2542	Office and Store Fixtures, Partitions, Shelving, and Lockers, Except Wood (except lunchroom tables and chairs)
337920	Blind and Shade Manufacturing	2591	Drapery Hardware and Window Blinds and Shades
337127	Institutional Furniture Manufacturing	2599	Furniture and Fixtures, NEC (except hospital beds)
339111	Laboratory Apparatus and Furniture Manufacturing	2599	Furniture and Fixtures, NEC (hospital beds)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Paper and Allied Products		
322110	Pulp Mills	2611	Pulp Mills (pulp producing mills only)
322121	Paper (except Newsprint) Mills	2611	Pulp Mills (pulp mills producing paper except newsprint)
322122	Newsprint Mills	2611	Pulp Mills (pulp mills producing newsprint)
322130	Paperboard Mills	2611	Pulp Mills (pulp mills producing paperboard)
322121	Paper (except Newsprint) Mills	2621	Paper Mills (except newsprint mills)
322122	Newsprint Mills	2621	Paper Mills (newsprint mills)
322130	Paperboard Mills	2631	Paperboard Mills
322213	Setup Paperboard Box Manufacturing	2652	Setup Paperboard Boxes
322211	Corrugated and Solid Fiber Box Manufacturing	2653	Corrugated and Solid Fiber Boxes
322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing	2655	Fiber Cans, Tubes, Drums, and Similar Products
322215	Nonfolding Sanitary Food Container Manufacturing	2656	Sanitary Food Containers, Except Folding
322212	Folding Paperboard Box Manufacturing	2657	Folding Paperboard Boxes, Including Sanitary (except paperboard backs for blister or skin packages)
322221	Coated and Laminated Packaging Paper and Plastics Film Manufacturing	2671	Packaging Paper and Plastics Film, Coated and Laminated (except single-web and multi-web plastics packaging film and sheet)
326112	Plastics Packaging Film and Sheet (including Laminated) Manufacturing	2671	Packaging Paper and Plastics Film, Coated and Laminated (single-web and multi-web plastics packaging film and sheet)
322222	Coated and Laminated Paper Manufacturing	2672	Coated and Laminated Paper, NEC
322223	Plastics, Foil, and Coated Paper Bag Manufacturing	2673	Plastics, Foil, and Coated Paper Bags (except single web or multi-web plastic bags)
326111	Plastics Bag Manufacturing	2673	Plastics, Foil, and Coated Paper Bags (single-web and multi-web plastics bags)
322224	Uncoated Paper and Multiwall Bag Manufacturing	2674	Uncoated Paper and Multiwall Bags
322226	Surface-Coated Paperboard Manufacturing	2675	Die-Cut Paper and Paperboard and Cardboard (pasted, lined, laminated, or surface-coated paperboard)
322231	Die-Cut Paper and Paperboard Office Supplies Manufacturing	2675	Die-Cut Paper and Paperboard and Cardboard (die-cut paper and paperboard office supplies, such as file folders, tabulating cards, and report covers)
322299	All Other Converted Paper Product Manufacturing	2675	Die-Cut Paper and Paperboard and Cardboard (except pasted, lined, laminated, or surface coated paperboard and die-cut paper and paperboard office supplies)
322291	Sanitary Paper Product Manufacturing	2676	Sanitary Paper Products

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
322232	Envelope Manufacturing	2677	Envelopes
322233	Stationery, Tablet, and Related Product Manufacturing	2678	Stationery, Tablets, and Related Products
322211	Corrugated and Solid Fiber Box Manufacturing	2679	Converted Paper and Paperboard Products, NEC (corrugated paper)
322222	Coated and Laminated Paper Manufacturing	2679	Converted Paper and Paperboard Products, NEC (wallpaper and gift wrap paper)
322231	Die-Cut Paper and Paperboard Office Supplies Manufacturing	2679	Converted Paper and Paperboard Products, NEC (paper supplies for business machines, such as adding machine tape, and other paper office supplies)
322299	All Other Converted Paper Product Manufacturing	2679	Converted Paper and Paperboard Products, NEC (except corrugated paper, wall paper, gift wrap paper, paper supplies for business machines, and other paper office supplies)
Printing and Publishing			
511110	Newspaper Publishers	2711	Newspapers: Publishing, or Publishing and Printing (except Internet newspaper publishing)
516110	Internet Publishing and Broadcasting	2711	Newspapers: Publishing, or Publishing and Printing (Internet newspaper publishing)
511120	Periodical Publishers	2721	Periodicals: Publishing, or Publishing and Printing (except Internet periodical publishing)
516110	Internet Publishing and Broadcasting	2721	Periodicals: Publishing, or Publishing and Printing (Internet periodical publishing)
511130	Book Publishers	2731	Books: Publishing, or Publishing and Printing (except music books and Internet book publishing)
512230	Music Publishers	2731	Books: Publishing, or Publishing and Printing (music books)
516110	Internet Publishing and Broadcasting	2731	Books: Publishing, or Publishing and Printing (Internet book publishing)
323117	Book Printing	2732	Book Printing
511120	Periodical Publishers	2741	Miscellaneous Publishing (shopping news and advertising periodical publishing or publishing and printing except Internet)
511130	Book Publishers	2741	Miscellaneous Publishing (technical manuals and books publishing or publishing and printing, except Internet)
511140	Directory and Mailing List Publishers	2741	Miscellaneous Publishing (directory publishers, except Internet publishers)
511199	All Other Publishers	2741	Miscellaneous Publishing (except database, advertising periodicals, shopping news, technical manuals and books, and sheet music publishing or publishing and printing and Internet versions of these activities)
512230	Music Publishers	2741	Miscellaneous Publishing (sheet music publishing or publishing and printing)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
516110	Internet Publishing and Broadcasting	2741	Miscellaneous Publishing (miscellaneous Internet publishing)
323110	Commercial Lithographic Printing	2752	Commercial Printing, Lithographic (except quick printing)
323114	Quick Printing	2752	Commercial Printing, Lithographic (quick printing)
323111	Commercial Gravure Printing	2754	Commercial Printing, Gravure
323112	Commercial Flexographic Printing	2759	Commercial Printing, NEC (flexographic printing)
323113	Commercial Screen Printing	2759	Commercial Printing, NEC (screen printing)
323114	Quick Printing	2759	Commercial Printing, NEC (quick printing)
323115	Digital Printing	2759	Commercial Printing, NEC (digital printing, except quick printing)
323119	Other Commercial Printing	2759	Commercial Printing, NEC (other commercial printing except flexographic, screen, digital, and quick printing)
323116	Manifold Business Form Printing	2761	Manifold Business Forms
323110	Commercial Lithographic Printing	2771	Greeting Cards (lithographic printing of greeting cards)
323111	Commercial Gravure Printing	2771	Greeting Cards (gravure printing of greeting cards)
323112	Commercial Flexographic Printing	2771	Greeting Cards (flexographic printing of greeting cards)
323113	Commercial Screen Printing	2771	Greeting Cards (screen printing of greeting cards)
323119	Other Commercial Printing	2771	Greeting Cards (other printing of greeting cards)
511191	Greeting Card Publishers	2771	Greeting Cards (publishing greeting cards except Internet greeting card publishers)
516110	Internet Publishing and Broadcasting	2771	Greeting Cards (Internet greeting card publishers)
323116	Manifold Business Form Printing	2782	Blankbooks, Looseleaf Binders and Devices (checkbooks)
323118	Blankbook, Loose-leaf Binder, and Device Manufacturing	2782	Blankbooks, Looseleaf Binders and Devices (except checkbooks)
323121	Tradebinding and Related Work	2789	Bookbinding and Related Work
323122	Prepress Services	2791	Typesetting
323122	Prepress Services	2796	Platemaking and Related Services
Chemicals and Allied Products			
325181	Alkalies and Chlorine Manufacturing	2812	Alkalies and Chlorine
325120	Industrial Gas Manufacturing	2813	Industrial Gases
325131	Inorganic Dye and Pigment Manufacturing	2816	Inorganic Pigments (except bone and lamp black)
325182	Carbon Black	2816	Inorganic Pigments (bone and lamp black)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Manufacturing		
211112	Natural Gas Liquid Extraction	2819	Industrial Inorganic Chemicals, NEC (recovering sulfur from natural gas)
325131	Inorganic Dye and Pigment Manufacturing	2819	Industrial Inorganic Chemicals, NEC (inorganic dyes)
325188	All Other Basic Inorganic Chemical Manufacturing	2819	Industrial Inorganic Chemicals, NEC (except activated carbon and charcoal, alumina, recovering sulfur from natural gas, and inorganic dyes)
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	2819	Industrial Inorganic Chemicals, NEC (activated carbon and charcoal)
331311	Alumina Refining	2819	Industrial Inorganic Chemicals, NEC (alumina)
325211	Plastics Material and Resin Manufacturing	2821	Plastics Materials, Synthetic and Resins, and Nonvulcanizable Elastomers
325212	Synthetic Rubber Manufacturing	2822	Synthetic Rubber
325221	Cellulosic Organic Fiber Manufacturing	2823	Cellulosic Manmade Fibers
325222	Noncellulosic Organic Fiber Manufacturing	2824	Manmade Organic Fibers, Except Cellulosic
325411	Medicinal and Botanical Manufacturing	2833	Medicinal Chemicals and Botanical Products
325412	Pharmaceutical Preparation Manufacturing	2834	Pharmaceutical Preparations
325412	Pharmaceutical Preparation Manufacturing	2835	In Vitro and In Vivo Diagnostic Substances (except in-vitro diagnostic substances)
325413	In-Vitro Diagnostic Substance Manufacturing	2835	In Vitro and In Vivo Diagnostic Substances (in-vitro diagnostic substances)
325414	Biological Product (except Diagnostic) Manufacturing	2836	Biological Products, Except Diagnostic Substances
325611	Soap and Other Detergent Manufacturing	2841	Soaps and Other Detergents, Except Specialty Cleaners
325612	Polish and Other Sanitation Good Manufacturing	2842	Specialty Cleaning, Polishing, and Sanitation Preparations
325613	Surface Active Agent Manufacturing	2843	Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants
325611	Soap and Other Detergent Manufacturing	2844	Perfumes, Cosmetics, and Other Toilet Preparations (toothpaste, gel, and dentifrice powders)
325620	Toilet Preparation Manufacturing	2844	Perfumes, Cosmetics, and Other Toilet Preparations (except toothpaste, gel, and dentifrice powders)
325510	Paint and Coating Manufacturing	2851	Paints, Varnishes, Lacquers, Enamels and Allied Products
325191	Gum and Wood Chemical Manufacturing	2861	Gum and Wood Chemicals

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
325110	Petrochemical Manufacturing	2865	Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments (aromatics)
325132	Synthetic Organic Dye and Pigment Manufacturing	2865	Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments (organic dyes and pigments)
325192	Cyclic Crude and Intermediate Manufacturing	2865	Cyclic Organic Crudes and Intermediates and Organic Dyes and Pigments (except aromatics and organic dyes and pigments)
325110	Petrochemical Manufacturing	2869	Industrial Organic Chemicals, NEC (aliphatics)
325120	Industrial Gas Manufacturing	2869	Industrial Organic Chemicals, NEC (fluorocarbon gases)
325188	All Other Basic Inorganic Chemical Manufacturing	2869	Industrial Organic Chemicals, NEC (carbon bisulfide)
325192	Cyclic Crude and Intermediate Manufacturing	2869	Industrial Organic Chemicals, NEC (cyclopropane, diethylcyclohexane, naphthalene sulfonic acid)
325193	Ethyl Alcohol Manufacturing	2869	Industrial Organic Chemicals, NEC (ethyl alcohol)
325199	All Other Basic Organic Chemical Manufacturing	2869	Industrial Organic Chemicals, NEC (except aliphatics, carbon bisulfide, ethyl alcohol, cyclopropane, diethylcyclohexane, naphthalene sulfonic acid, synthetic hydraulic fluids, and fluorocarbon gases)
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	2869	Industrial Organic Chemicals, NEC (synthetic hydraulic fluids)
325311	Nitrogenous Fertilizer Manufacturing	2873	Nitrogenous Fertilizers
325312	Phosphatic Fertilizer Manufacturing	2874	Phosphatic Fertilizers
325314	Fertilizer (Mixing Only) Manufacturing	2875	Fertilizers, Mixing Only
325320	Pesticide and Other Agricultural Chemical Manufacturing	2879	Pesticides and Agricultural Chemicals, NEC
325520	Adhesive Manufacturing	2891	Adhesives and Sealants
325920	Explosives Manufacturing	2892	Explosives
325910	Printing Ink Manufacturing	2893	Printing Ink
325182	Carbon Black Manufacturing	2895	Carbon Black
311942	Spice and Extract Manufacturing	2899	Chemicals and Chemical Preparations, NEC (table salt)
325199	All Other Basic Organic Chemical Manufacturing	2899	Chemicals and Chemical Preparations, NEC (fatty acids)
325510	Paint and Coating Manufacturing	2899	Chemicals and Chemical Preparations, NEC (frit and plastic wood fillers)
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	2899	Chemicals and Chemical Preparations, NEC (except frit, fatty acids, plastic wood fillers, and table salt)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
Petroleum and Coal Products			
324110	Petroleum Refineries	2911	Petroleum Refining
324121	Asphalt Paving Mixture and Block Manufacturing	2951	Asphalt Paving Mixtures and Blocks
324122	Asphalt Shingle and Coating Materials Manufacturing	2952	Asphalt Felts and Coatings
324191	Petroleum Lubricating Oil and Grease Manufacturing	2992	Lubricating Oils and Greases
324199	All Other Petroleum and Coal Products Manufacturing	2999	Products of Petroleum and Coal, NEC
Rubber and Misc. Plastics Products			
326211	Tire Manufacturing (except Retreading)	3011	Tires and Inner Tubes
316211	Rubber and Plastics Footwear Manufacturing	3021	Rubber and Plastics Footwear
326220	Rubber and Plastics Hoses and Belting Manufacturing	3052	Rubber and Plastics Hose and Belting
339991	Gasket, Packing, and Sealing Device Manufacturing	3053	Gaskets, Packing, and Sealing Devices
326291	Rubber Product Manufacturing for Mechanical Use	3061	Molded, Extruded, and Lathe-Cut Mechanical Rubber Goods
313320	Fabric Coating Mills	3069	Fabricated Rubber Products, NEC (rubberizing fabric or purchased textile products)
314911	Textile Bag Mills	3069	Fabricated Rubber Products, NEC (bags made from rubberized fabric)
315299	All Other Cut and Sew Apparel Manufacturing	3069	Fabricated Rubber Products, NEC (rubber cut and sew outerwear)
315999	Other Apparel Accessories and Other Apparel Manufacturing	3069	Fabricated Rubber Products, NEC (bibs, bathing caps, related rubber accessories)
326192	Resilient Floor Covering Manufacturing	3069	Fabricated Rubber Products, NEC (rubber resilient floor coverings)
326299	All Other Rubber Product Manufacturing	3069	Fabricated Rubber Products, NEC (except rubberized fabric and garments, gloves, life vests, wet suits, accessories, such as bibs and bathing caps, rubber toys, bags made from rubberized fabric, rubber diaper covers, and rubber resilient floor coverings)
339113	Surgical and Appliance and Supplies Manufacturing	3069	Fabricated Rubber Products, NEC (rubber gloves, inflatable rubber lifejackets)
339920	Sporting and Athletic	3069	Fabricated Rubber Products, NEC (wet

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
339932	Goods Manufacturing Game, Toy, and Children's Vehicle Manufacturing	3069	suits) Fabricated Rubber Products, NEC (rubber toys, except dolls)
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	3081	Unsupported Plastics Film and Sheet
326121	Unlaminated Plastics Profile Shape Manufacturing	3082	Unsupported Plastics Profile Shapes
326130	Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing	3083	Laminated Plastics Plate, Sheet, and Profile Shapes
326122	Plastics Pipe and Pipe Fitting Manufacturing	3084	Plastics Pipe
326160	Plastics Bottle Manufacturing	3085	Plastics Bottles
326140	Polystyrene Foam Product Manufacturing	3086	Plastics Foam Products (polystyrene foam products)
326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing	3086	Plastics Foam Products (except polystyrene foam products)
325991	Custom Compounding of Purchased Resins	3087	Custom Compounding of Purchased Plastics Resins
326191	Plastics Plumbing Fixture Manufacturing	3088	Plastics Plumbing Fixtures
326121	Unlaminated Plastics Profile Shape Manufacturing	3089	Plastics Products, NEC (plastics sausage casings)
326122	Plastics Pipe and Pipe Fitting Manufacturing	3089	Plastics Products, NEC (pipe fittings)
326199	All Other Plastics Product Manufacturing	3089	Plastics Products, NEC (except plastics pipe fittings, inflatable plastics life jackets, plastics furniture parts, and plastics sausage casings)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	3089	Plastics Products, NEC (finished plastic furniture parts)
339113	Surgical Appliance and Supplies Manufacturing	3089	Plastics Products, NEC (inflatable plastic life jackets)
Leather and Leather Products			
316110	Leather and Hide Tanning and Finishing	3111	Leather Tanning and Finishing
316999	All Other Leather Good Manufacturing	3131	Boot and Shoe Cut Stock and Findings (except wood heels and metal buckles)
321999	All Other Miscellaneous Wood Product Manufacturing	3131	Boot and Shoe Cut Stock and Findings (wood heels)
339993	Fastener, Button, Needle, and Pin Manufacturing	3131	Boot and Shoe Cut Stock and Findings (metal buckles)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
316212	House Slipper Manufacturing	3142	House Slippers
316213	Men's Footwear (except Athletic) Manufacturing	3143	Men's Footwear, Except Athletic
316214	Women's Footwear (except Athletic) Manufacturing	3144	Women's Footwear, Except Athletic
316219	Other Footwear Manufacturing	3149	Footwear, Except Rubber, NEC
315211	Men's and Boys' Cut and Sew Apparel Contractors	3151	Leather Gloves and Mittens (men's and boys' contractors)
315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors	3151	Leather Gloves and Mittens (women's, girls', and infants' contractors)
315992	Glove and Mitten Manufacturing	3151	Leather Gloves and Mittens (except contractors)
316991	Luggage Manufacturing	3161	Luggage
316992	Women's Handbag and Purse Manufacturing	3171	Women's Handbags and Purses
316993	Personal Leather Good (except Women's Handbag and Purse) Manufacturing	3172	Personal Leather Goods, Except Women's Handbags and Purses (except nonprecious metal personal goods, such as card cases, cigar cases, and comb cases)
339914	Costume Jewelry and Novelty Manufacturing	3172	Personal Leather Goods, Except Women's Handbags and Purses (nonprecious metal personal goods, such as card cases, cigar cases, and comb cases)
316999	All Other Leather Good Manufacturing	3199	Leather Goods, NEC
Stone, Clay, and Glass Products			
327211	Flat Glass Manufacturing	3211	Flat Glass
327213	Glass Container Manufacturing	3221	Glass Containers
327212	Other Pressed and Blown Glass and Glassware Manufacturing	3229	Pressed and Blown Glass and Glassware, NEC
327215	Glass Product Manufacturing Made of Purchased Glass	3231	Glass Products Made of Purchased Glass
327310	Cement Manufacturing	3241	Cement, Hydraulic
327121	Brick and Structural Clay Tile Manufacturing	3251	Brick and Structural Clay Tile (except slumped brick)
327331	Concrete Block and Brick Manufacturing	3251	Brick and Structural Clay Tile (slumped brick)
327122	Ceramic Wall and Floor Tile Manufacturing	3253	Ceramic Wall and Floor Tile
327124	Clay Refractory Manufacturing	3255	Clay Refractories
327123	Other Structural Clay Product Manufacturing	3259	Structural Clay Products, NEC

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
327111	Vitreous China Plumbing Fixture and China and Earthenware Bathroom Accessories Manufacturing	3261	Vitreous China Plumbing Fixtures and China and Earthenware Fittings and Bathroom Accessories
327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	3262	Vitreous China Table and Kitchen Articles
327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	3263	Fine Earthenware (Whiteware) Table and Kitchen Articles
327113	Porcelain Electrical Supply Manufacturing	3264	Porcelain Electrical Supplies
327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	3269	Pottery Products, NEC
327331	Concrete Block and Brick Manufacturing	3271	Concrete Block and Brick
327332	Concrete Pipe Manufacturing	3272	Concrete Products, Except Block and Brick (concrete pipe)
327390	Other Concrete Product Manufacturing	3272	Concrete Products, Except Block and Brick (concrete products, except dry mix concrete and pipe)
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	3272	Concrete Products, Except Block and Brick (dry mixture concrete)
327320	Ready-Mix Concrete Manufacturing	3273	Ready-Mixed Concrete
327410	Lime Manufacturing	3274	Lime
327420	Gypsum Product Manufacturing	3275	Gypsum Products
327991	Cut Stone and Stone Product Manufacturing	3281	Cut Stone and Stone Products
327910	Abrasive Product Manufacturing	3291	Abrasive Products (except steel wool with or without soap)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3291	Abrasive Products (steel wool with or without soap)
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	3292	Asbestos Products (except brake pads and linings)
336340	Motor Vehicle Brake System Manufacturing	3292	Asbestos Products (asbestos brake linings and pads)
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	3292	Asbestos Products (asbestos clutch facings, motor vehicle)
212324	Kaolin and Ball Clay Mining	3295	Minerals and Earths, Ground or Otherwise Treated (grinding, washing, separating, etc. of kaolin and ball clay)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
212325	Clay and Ceramic and Refractory Minerals Mining	3295	Minerals and Earths, Ground or Otherwise Treated (grinding, washing, separating, etc. of clay, ceramic, and refractory minerals nec)
212393	Other Chemical and Fertilizer Mineral Mining	3295	Minerals and Earths, Ground or Otherwise Treated (grinding, washing, separating, etc. of chemical and fertilizer minerals, nec)
212399	All Other Nonmetallic Mineral Mining	3295	Minerals and Earths, Ground or Otherwise Treated (grinding, washing, separating, etc. of nonmetallic minerals, nec)
327992	Ground or Treated Mineral and Earth Manufacturing	3295	Minerals and Earths, Ground or Otherwise Treated (except grinding, washing, separating, etc. of nonmetallic minerals)
327993	Mineral Wool Manufacturing	3296	Mineral Wool
327125	Nonclay Refractory Manufacturing	3297	Nonclay Refractories
327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing	3299	Nonmetallic Mineral Products, NEC (clay statuary)
327420	Gypsum Product Manufacturing	3299	Nonmetallic Mineral Products, NEC (moldings, ornamental and architectural plaster work, and gypsum statuary)
327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing	3299	Nonmetallic Mineral Products, NEC (except moldings, ornamental and architectural plaster work, clay statuary, and gypsum statuary)
Primary Metal Industries			
324199	All Other Petroleum and Coal Products Manufacturing	3312	Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills (coke ovens)
331111	Iron and Steel Mills	3312	Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills (except coke ovens not integrated with steel mills and hot-rolling purchased steel)
331221	Rolled Steel Shape Manufacturing	3312	Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills (hot-rolling purchased steel)
331112	Electrometallurgical Ferroalloy Product Manufacturing	3313	Electrometallurgical Products, Except Steel
331222	Steel Wire Drawing	3315	Steel Wiredrawing and Steel Nails and Spikes (steel wire drawing)
332618	Other Fabricated Wire Product Manufacturing	3315	Steel Wiredrawing and Steel Nails and Spikes (nails, spikes, paper clips, and wire not made in wiredrawing plants)
331221	Rolled Steel Shape Manufacturing	3316	Cold-Rolled Steel Sheet, Strip, and Bars
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel	3317	Steel Pipe and Tubes

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
331511	Iron Foundries	3321	Gray and Ductile Iron Foundries
331511	Iron Foundries	3322	Malleable Iron Foundries
331512	Steel Investment Foundries	3324	Steel Investment Foundries
331513	Steel Foundries (except Investment)	3325	Steel Foundries, NEC
331411	Primary Smelting and Refining of Copper	3331	Primary Smelting and Refining of Copper
331312	Primary Aluminum Production	3334	Primary Production of Aluminum
331419	Primary Smelting and Refining of Nonferrous Metal (except Copper and Aluminum)	3339	Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum
331314	Secondary Smelting and Alloying of Aluminum	3341	Secondary Smelting and Refining of Nonferrous Metals (aluminum)
331423	Secondary Smelting, Refining, and Alloying of Copper	3341	Secondary Smelting and Refining of Nonferrous Metals (copper)
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	3341	Secondary Smelting and Refining of Nonferrous Metals (except copper and aluminum)
331421	Copper Rolling, Drawing, and Extruding	3351	Rolling, Drawing, and Extruding of Copper
331315	Aluminum Sheet, Plate, and Foil Manufacturing	3353	Aluminum Sheet, Plate, and Foil
331316	Aluminum Extruded Product Manufacturing	3354	Aluminum Extruded Products
331319	Other Aluminum Rolling and Drawing	3355	Aluminum Rolling and Drawing, NEC
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	3356	Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum
331319	Other Aluminum Rolling and Drawing	3357	Drawing and Insulating of Nonferrous Wire (aluminum wire drawing)
331422	Copper Wire (except Mechanical) Drawing	3357	Drawing and Insulating of Nonferrous Wire (copper wire drawing)
331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding	3357	Drawing and Insulating of Nonferrous Wire (wire drawing except copper or aluminum)
335921	Fiber Optic Cable Manufacturing	3357	Drawing and Insulating of Nonferrous Wire (fiber optic cable-insulating only)
335929	Other Communication and Energy Wire Manufacturing	3357	Drawing and Insulating of Nonferrous Wire (communication and energy wire, except fiber optic-insulating only)
331521	Aluminum Die-Casting Foundries	3363	Aluminum Die-Castings
331522	Nonferrous (except Aluminum) Die-Casting Foundries	3364	Nonferrous Die-Castings, Except Aluminum
331524	Aluminum Foundries	3365	Aluminum Foundries

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	(except Die-Casting)		
331525	Copper Foundries (except Die-Casting)	3366	Copper Foundries
331528	Other Nonferrous Foundries (except Die-Casting)	3369	Nonferrous Foundries, Except Aluminum and Copper
332811	Metal Heat Treating	3398	Metal Heat Treating
331111	Iron and Steel Mills	3399	Primary Metal Products, NEC (iron ore recovery from open hearth slag)
331221	Rolled Steel Shape Manufacturing	3399	Primary Metal Products, NEC (ferrous powder, paste, flakes, etc.)
331314	Secondary Smelting and Alloying of Aluminum	3399	Primary Metal Products, NEC (aluminum powder, paste, flakes, etc.)
331423	Secondary Smelting, Refining, and Alloying of Copper	3399	Primary Metal Products, NEC (copper powder, paste, flakes, etc.)
331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)	3399	Primary Metal Products, NEC (nonferrous powder, paste, flakes, etc. except copper and aluminum)
332618	Other Fabricated Wire Product Manufacturing	3399	Primary Metal Products, NEC (nonferrous nails, brads, staples, tacks, etc. made from purchased nonferrous wire)
332813	Electroplating, Plating, Polishing, Anodizing and Coloring	3399	Primary Metal Products, NEC (laminating steel for the trade)
Fabricated Metal Products			
332431	Metal Can Manufacturing	3411	Metal Cans
332439	Other Metal Container Manufacturing	3412	Metal Shipping Barrels, Drums, Kegs, and Pails
332211	Cutlery and Flatware (except Precious) Manufacturing	3421	Cutlery (except hedge shears and trimmers, tinners' snips, and similar nonelectric hand tools)
332212	Hand and Edge Tool Manufacturing	3421	Cutlery (hedge shears and trimmers, tinners' snips, and similar nonelectric hand tools)
332212	Hand and Edge Tool Manufacturing	3423	Hand and Edge Tools, Except Machine Tools and Handsaws
332213	Saw Blade and Handsaw Manufacturing	3425	Saw Blades and Handsaws
332439	Other Metal Container Manufacturing	3429	Hardware, NEC (vacuum and insulated bottles, jugs, and chests)
332510	Hardware Manufacturing	3429	Hardware, NEC (except fire hose nozzles, hose couplings, vacuum and insulated bottles, jugs and chests, fireplace fixtures, time locks, turnbuckles, pulleys, tackle blocks, luggage and utility racks, sleep sofa mechanisms and chair glides, traps, handcuffs and leg irons, ladder jacks, and other like metal products)
332722	Bolt, Nut, Screw, Rivet, and Washer	3429	Hardware, NEC (turnbuckles and hose clamps)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Manufacturing		
332919	Other Metal Valve and Pipe Fitting Manufacturing	3429	Hardware, NEC (fire hose nozzles and hose couplings)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3429	Hardware, NEC (fireplace fixtures, traps, handcuffs and leg irons, ladder jacks, and other like metal products)
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	3429	Hardware, NEC (pulleys, tackle blocks, block and tackle assemblies)
334518	Watch, Clock, and Part Manufacturing	3429	Hardware, NEC (time locks)
336399	All Other Motor Vehicle Parts Manufacturing	3429	Hardware, NEC (luggage and utility racks)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	3429	Hardware, NEC (sleep sofa mechanisms and chair glides)
332998	Enameled Iron and Metal Sanitary Ware Manufacturing	3431	Enameled Iron and Metal Sanitary Ware
332913	Plumbing Fixture Fitting and Trim Manufacturing	3432	Plumbing Fixture Fittings and Trim (except shower rods, lawn hose nozzles, and lawn sprinklers)
332919	Other Metal Valve and Pipe Fitting Manufacturing	3432	Plumbing Fixture Fittings and Trim (lawn hose nozzles and lawn sprinklers)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3432	Plumbing Fixture Fittings and Trim (metal shower rods)
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	3433	Heating Equipment, Except Electric and Warm Air Furnaces
332312	Fabricated Structural Metal Manufacturing	3441	Fabricated Structural Metal
332321	Metal Window and Door Manufacturing	3442	Metal Doors, Sash, Frames, Molding, and Trim
332313	Plate Work Manufacturing	3443	Fabricated Plate Work (Boiler Shops) (fabricated plate work and metal weldments)
332410	Power Boiler and Heat Exchanger Manufacturing	3443	Fabricated Plate Work (Boiler Shops) (power boilers and heat exchangers)
332420	Metal Tank (Heavy Gauge) Manufacturing	3443	Fabricated Plate Work (Boiler Shops) (heavy gauge tanks)
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	3443	Fabricated Plate Work (Boiler Shops) (metal cooling towers)
332321	Metal Window and Door Manufacturing	3444	Sheet Metal Work (stamped metal skylights)
332322	Sheet Metal Work Manufacturing	3444	Sheet Metal Work (except sheet metal bins and vats, skylights, and sheet metal cooling towers)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
332439	Other Metal Container Manufacturing	3444	Sheet Metal Work (metal bins and vats)
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	3444	Sheet Metal Work (cooling towers, sheet metal)
332323	Ornamental and Architectural Metal Work Manufacturing	3446	Architectural and Ornamental Metal Work
332311	Prefabricated Metal Building and Component Manufacturing	3448	Prefabricated Metal Buildings and Components
332114	Custom Roll Forming	3449	Miscellaneous Structural Metal Work (custom roll forming)
332312	Fabricated Structural Metal Manufacturing	3449	Miscellaneous Structural Metal Work (fabricated bar joists and concrete reinforcing bars)
332323	Ornamental and Architectural Metal Work Manufacturing	3449	Miscellaneous Structural Metal Work (curtain wall and metal plaster bases and lath)
332721	Precision Turned Product Manufacturing	3451	Screw Machine Products
332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	3452	Bolts, Nuts, Screws, Rivets, and Washers
332111	Iron and Steel Forging	3462	Iron and Steel Forgings
332112	Nonferrous Forging	3463	Nonferrous Forgings
336370	Motor Vehicle Metal Stamping	3465	Automotive Stampings
332115	Crown and Closure Manufacturing	3466	Crowns and Closures
332116	Metal Stamping	3469	Metal Stampings, NEC (except kitchen utensils, pots and pans for cooking, coins, and stamped metal boxes)
332214	Kitchen Utensil, Pot, and Pan Manufacturing	3469	Metal Stampings, NEC (kitchen utensils, pots, and pans for cooking)
332439	Other Metal Container Manufacturing	3469	Metal Stampings, NEC (stamped metal tool, cash, mail, and lunch boxes)
332813	Electroplating, Plating, Polishing, Anodizing and Coloring	3471	Electroplating, Plating, Polishing, Anodizing, and Coloring
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	3479	Coating, Engraving, and Allied Services, NEC (except jewelry, silverware, and flatware engraving and etching)
339911	Jewelry (except Costume) Manufacturing	3479	Coating, Engraving, and Allied Services, NEC (precious metal jewelry engraving and etching)
339912	Silverware and Holloware Manufacturing	3479	Coating, Engraving, and Allied Services, NEC (silver and plated ware engraving and etching)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
339914	Costume Jewelry and Novelty Manufacturing	3479	Coating, Engraving, and Allied Services, NEC (costume jewelry engraving and etching)
332992	Small Arms Ammunition Manufacturing	3482	Small Arms Ammunition
332993	Ammunition (except Small Arms) Manufacturing	3483	Ammunition, Except for Small Arms
332994	Small Arms Manufacturing	3484	Small Arms
332995	Other Ordnance and Accessories Manufacturing	3489	Ordnance and Accessories, NEC
332911	Industrial Valve Manufacturing	3491	Industrial Valves
332912	Fluid Power Valve and Hose Fitting Manufacturing	3492	Fluid Power Valves and Hose Fittings
332611	Spring (Heavy Gauge) Manufacturing	3493	Steel Springs, Except Wire
332919	Other Metal Valve and Pipe Fitting Manufacturing	3494	Valves and Pipe Fittings, NEC (except metal pipe hangers and supports)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3494	Valves and Pipe Fittings, NEC (metal pipe hangers and supports)
332612	Spring (Light Gauge) Manufacturing	3495	Wire Springs (except watch and clock springs)
334518	Watch, Clock, and Part Manufacturing	3495	Wire Springs (clock and watch springs)
332214	Kitchen Utensil, Pot, and Pan Manufacturing	3496	Miscellaneous Fabricated Wire Products (potato mashers)
332618	Other Fabricated Wire Product Manufacturing	3496	Miscellaneous Fabricated Wire Products (except shopping carts and potato mashers)
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	3496	Miscellaneous Fabricated Wire Products (shopping carts made from purchased wire)
322225	Laminated Aluminum Foil Manufacturing for Flexible Packaging Uses	3497	Metal Foil and Leaf (laminated aluminum foil rolls and sheets for flexible packaging uses)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3497	Metal Foil and Leaf (foil and foil containers)
332996	Fabricated Pipe and Pipe Fitting Manufacturing	3498	Fabricated Pipe and Pipe Fittings
332117	Powder Metallurgy Part Manufacturing	3499	Fabricated Metal Products, NEC (powder metallurgy)
332439	Other Metal Container Manufacturing	3499	Fabricated Metal Products, NEC (metal boxes)
332510	Hardware Manufacturing	3499	Fabricated Metal Products, NEC (safe and vault locks)
332919	Other Metal Valve and Pipe Fitting Manufacturing	3499	Fabricated Metal Products, NEC (metal aerosol valves)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3499	Fabricated Metal Products, NEC (other metal products)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
336360	Motor Vehicle Seating and Interior Trim Manufacturing	3499	Fabricated Metal Products, NEC (metal automobile seat frames)
337215	Showcase, Partition, Shelving, and Locker Manufacturing	3499	Fabricated Metal Products, NEC (metal furniture frames)
	Industrial Machinery and Equipment		
333611	Turbine and Turbine Generator Set Units Manufacturing	3511	Steam, Gas, and Hydraulic Turbines, and Turbine Generator Set Units
333618	Other Engine Equipment Manufacturing	3519	Internal Combustion Engines, NEC (except stationary engine radiators)
336399	All Other Motor Vehicle Parts Manufacturing	3519	Internal Combustion Engines, NEC (stationary engine radiators)
332212	Hand and Edge Tool Manufacturing	3523	Farm Machinery and Equipment (hand hair clippers for animals)
332323	Ornamental and Architectural Metal Work Manufacturing	3523	Farm Machinery and Equipment (corrals, stalls, and holding gates)
333111	Farm Machinery and Equipment Manufacturing	3523	Farm Machinery and Equipment (except corrals, stalls, holding gates, hand clippers for animals, and farm conveyors/elevators)
333922	Conveyor and Conveying Equipment Manufacturing	3523	Farm Machinery and Equipment (farm conveyors and elevators)
332212	Hand and Edge Tool Manufacturing	3524	Lawn and Garden Tractors and Home Lawn and Garden Equipment (nonpowered lawnmowers)
333112	Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing	3524	Lawn and Garden Tractors and Home Lawn and Garden Equipment (except nonpowered lawnmowers)
333120	Construction Machinery Manufacturing	3531	Construction Machinery and Equipment (except railway track maintenance equipment; winches, aerial work platforms; and automotive wrecker hoists)
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	3531	Construction Machinery and Equipment (winches, aerial work platforms, automobile wrecker hoists, locomotive cranes, and ship cranes)
336510	Railroad Rolling Stock Manufacturing	3531	Construction Machinery and Equipment (railway track maintenance equipment)
333131	Mining Machinery and Equipment Manufacturing	3532	Mining Machinery and Equipment, Except Oil and Gas Field Machinery and Equipment
333132	Oil and Gas Field Machinery and Equipment Manufacturing	3533	Oil and Gas Field Machinery and Equipment
333921	Elevator and Moving Stairway Manufacturing	3534	Elevators and Moving Stairways
333922	Conveyor and Conveying Equipment Manufacturing	3535	Conveyors and Conveying Equipment

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing	3536	Overhead Traveling Cranes, Hoists, and Monorail Systems
332439	Other Metal Container Manufacturing	3537	Industrial Trucks, Tractors, Trailers, and Stackers (metal air cargo containers)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3537	Industrial Trucks, Tractors, Trailers, and Stackers (metal pallets)
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	3537	Industrial Trucks, Tractors, Trailers, and Stackers (except metal pallets and metal air cargo containers)
333512	Machine Tool (Metal Cutting Types) Manufacturing	3541	Machine Tools, Metal Cutting Types
333513	Machine Tool (Metal Forming Types) Manufacturing	3542	Machine Tools, Metal Forming Type
332997	Industrial Pattern Manufacturing	3543	Industrial Patterns
333511	Industrial Mold Manufacturing	3544	Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds (industrial molds)
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing	3544	Special Dies and Tools, Die Sets, Jigs and Fixtures, and Industrial Molds (except molds)
332212	Hand and Edge Tool Manufacturing	3545	Cutting Tools, Machine Tool Accessories, and Machinist Precision Measuring Devices (precision measuring devices)
333515	Cutting Tool and Machine Tool Accessory Manufacturing	3545	Cutting Tools, Machine Tool Accessories, and Machinists' Precision Measuring Devices (except precision measuring devices)
333991	Power-Driven Hand Tool Manufacturing	3546	Power-Driven Handtools
333516	Rolling Mill Machinery and Equipment Manufacturing	3547	Rolling Mill Machinery and Equipment
333992	Welding and Soldering Equipment Manufacturing	3548	Electric and Gas Welding and Soldering Equipment (except transformers for arc-welding)
335311	Power, Distribution, and Specialty Transformer Manufacturing	3548	Electric and Gas Welding and Soldering Equipment (transformers for arc-welders)
333518	Other Metalworking Machinery Manufacturing	3549	Metalworking Machinery, NEC
333292	Textile Machinery Manufacturing	3552	Textile Machinery
333210	Sawmill and Woodworking Machinery Manufacturing	3553	Woodworking Machinery
333291	Paper Industry Machinery Manufacturing	3554	Paper Industries Machinery
333293	Printing Machinery and Equipment Manufacturing	3555	Printing Trades Machinery and Equipment

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
333294	Food Product Machinery Manufacturing	3556	Food Products Machinery
332410	Power Boiler and Heat Exchanger Manufacturing	3559	Special Industry Machinery, NEC (nuclear control rod drive mechanisms)
333111	Farm Machinery and Equipment Manufacturing	3559	Special Industry Machinery, NEC (cotton ginning machinery)
333220	Plastics and Rubber Industry Machinery Manufacturing	3559	Special Industry Machinery, NEC (rubber and plastics manufacturing machinery)
333295	Semiconductor Machinery Manufacturing	3559	Special Industry Machinery, NEC (semiconductor machinery manufacturing)
333298	All Other Industrial Machinery Manufacturing	3559	Special Industry Machinery, NEC (except rubber and plastics manufacturing machinery, semiconductor manufacturing machinery, and automotive maintenance equipment)
333319	Other Commercial and Service Industry Machinery Manufacturing	3559	Special Industry Machinery, NEC (automotive maintenance equipment)
333911	Pump and Pumping Equipment Manufacturing	3561	Pumps and Pumping Equipment
332991	Ball and Roller Bearing Manufacturing	3562	Ball and Roller Bearings
333912	Air and Gas Compressor Manufacturing	3563	Air and Gas Compressors
333411	Air Purification Equipment Manufacturing	3564	Industrial and Commercial Fans and Blowers and Air Purification Equipment (air purification equipment)
333412	Industrial and Commercial Fan and Blower Manufacturing	3564	Industrial and Commercial Fans and Blowers and Air Purification Equipment (fans and blowers)
333993	Packaging Machinery Manufacturing	3565	Packaging Machinery
333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing	3566	Speed Changers, Industrial High-Speed Drives, and Gears
333994	Industrial Process Furnace and Oven Manufacturing	3567	Industrial Process Furnaces and Ovens
333613	Mechanical Power Transmission Equipment Manufacturing	3568	Mechanical Power Transmission Equipment, NEC
314999	All Other Miscellaneous Textile Product Mills	3569	General Industrial Machinery and Equipment, NEC (textile fire hose)
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	3569	General Industrial Machinery and Equipment, NEC (electric swimming pool heaters)
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	3569	General Industrial Machinery and Equipment, NEC (except fire hoses and electric swimming pool heaters)
334111	Electronic Computer Manufacturing	3571	Electronic Computers
334112	Computer Storage Device Manufacturing	3572	Computer Storage Devices

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
334113	Computer Terminal Manufacturing	3575	Computer Terminals
334119	Other Computer Peripheral Equipment Manufacturing	3577	Computer Peripheral Equipment, NEC (except plotter controllers and magnetic tape head cleaners)
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	3577	Computer Peripheral Equipment, NEC (plotter controllers)
334613	Magnetic and Optical Recording Media Manufacturing	3577	Computer Peripheral Equipment, NEC (magnetic tape head cleaners)
333311	Automatic Vending Machine Manufacturing	3578	Calculating and Accounting Machinery, Except Electronic Computers (change making machines)
333313	Office Machinery Manufacturing	3578	Calculating and Accounting Machinery, Except Electronic Computers (except point of sales terminals, change making machines and funds transfer devices)
334119	Other Computer Peripheral Equipment Manufacturing	3578	Calculating and Accounting Machines, Except Electronic Computers (point of sale terminals and fund transfer devices)
333313	Office Machinery Manufacturing	3579	Office Machines, NEC (except timeclocks, time stamps, pencil sharpeners, stapling machines, etc.)
334518	Watch, Clock, and Part Manufacturing	3579	Office Machines, NEC (time clocks and other time recording devices)
339942	Lead Pencil and Art Good Manufacturing	3579	Office Machines, NEC (pencil sharpeners, staplers and other office equipment)
333311	Automatic Vending Machine Manufacturing	3581	Automatic Vending Machines
333312	Commercial Laundry, Drycleaning, and Pressing Machine Manufacturing	3582	Commercial Laundry, Drycleaning, and Pressing Machines
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing	3585	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment (except motor vehicle air-conditioning)
336391	Motor Vehicle Air-Conditioning Manufacturing	3585	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment (motor vehicle air-conditioning)
333913	Measuring and Dispensing Pump Manufacturing	3586	Measuring and Dispensing Pumps
333319	Other Commercial and Service Industry Machinery Manufacturing	3589	Service Industry Machinery, NEC
336311	Carburetor, Piston, Piston Ring, and Valve Manufacturing	3592	Carburetors, Pistons, Piston Rings, and Valves
333995	Fluid Power Cylinder and Actuator Manufacturing	3593	Fluid Power Cylinders and Actuators

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
333996	Fluid Power Pump and Motor Manufacturing	3594	Fluid Power Pumps and Motors
333997	Scale and Balance (except Laboratory) Manufacturing	3596	Scales and Balances, Except Laboratory
332710	Machine Shops	3599	Industrial and Commercial Machinery and Equipment, NEC (machine shops)
332813	Electroplating, Plating, Polishing, Anodizing and Coloring	3599	Industrial and Commercial Machinery and Equipment, NEC (grinding castings for the trade)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3599	Industrial and Commercial Machinery and Equipment, NEC (flexible metal hose)
333319	Other Commercial and Service Industry Machinery Manufacturing	3599	Industrial and Commercial Machinery and Equipment, NEC (carnival amusement park equipment)
333999	All Other Miscellaneous General Purpose Machinery Manufacturing	3599	Industrial and Commercial Machinery and Equipment, NEC (other industrial and commercial machinery and equipment)
334519	Other Measuring and Controlling Device Manufacturing	3599	Industrial and Commercial Machinery and Equipment, NEC (water leak detectors)
336399	All Other Motor Vehicle Parts Manufacturing	3599	Industrial and Commercial Machinery and Equipment, NEC (gasoline, oil, and intake filters for internal combustion engines, except for motor vehicles)
Electronic and Other Electric Equipment			
335311	Power, Distribution, and Specialty Transformer Manufacturing	3612	Power, Distribution, and Specialty Transformers
335313	Switchgear and Switchboard Apparatus Manufacturing	3613	Switchgear and Switchboard Apparatus
335312	Motor and Generator Manufacturing	3621	Motors and Generators
335991	Carbon and Graphite Product Manufacturing	3624	Carbon and Graphite Products
335314	Relay and Industrial Control Manufacturing	3625	Relays and Industrial Controls
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	3629	Electrical Industrial Apparatus, NEC
335221	Household Cooking Appliance Manufacturing	3631	Household Cooking Equipment
335222	Household Refrigerator and Home Freezer Manufacturing	3632	Household Refrigerators and Home and Farm Freezers
335224	Household Laundry Equipment Manufacturing	3633	Household Laundry Equipment

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
333414	Heating Equipment (except Warm Air Furnaces) Manufacturing	3634	Electric Housewares and Fans (wall and baseboard heating units for permanent installation)
335211	Electric Housewares and Household Fan Manufacturing	3634	Electric Housewares and Fans (except wall and baseboard heating units for permanent installation, electronic cigarette lighters, and wall mount restroom hand dryers)
339999	All Other Miscellaneous Manufacturing	3634	Electric Housewares and Fans (electronic cigarette lighters)
335212	Household Vacuum Cleaner Manufacturing	3635	Household Vacuum Cleaners
333298	All Other Industrial Machinery Manufacturing	3639	Household Appliances, NEC (household sewing machines)
335212	Household Vacuum Cleaner Manufacturing	3639	Household Appliances, NEC (floor waxing and floor polishing machines)
335228	Other Major Household Appliance Manufacturing	3639	Household Appliances, NEC (except floor waxing and floor polishing machines, and household sewing machines)
335110	Electric Lamp Bulb and Part Manufacturing	3641	Electric Lamp Bulbs and Tubes
335931	Current-Carrying Wiring Device Manufacturing	3643	Current-Carrying Wiring Devices
332212	Hand and Edge Tool Manufacturing	3644	Noncurrent-Carrying Wiring Devices (fish wire, electrical wiring tool)
335932	Noncurrent-Carrying Wiring Device Manufacturing	3644	Noncurrent-Carrying Wiring Devices (except fishwire, electrical wiring tool)
335121	Residential Electric Lighting Fixture Manufacturing	3645	Residential Electric Lighting Fixtures
335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing	3646	Commercial, Industrial, and Institutional Electric Lighting Fixtures
336321	Vehicular Lighting Equipment Manufacturing	3647	Vehicular Lighting Equipment
335129	Other Lighting Equipment Manufacturing	3648	Lighting Equipment, NEC
334310	Audio and Video Equipment Manufacturing	3651	Household Audio and Video Equipment
334612	Prerecorded Compact Disc (except Software), Tape, and Record Reproducing	3652	Phonograph Records and Prerecorded Audio Tapes and Disks (reproduction of all other media except video)
512220	Integrated Record Production/Distribution	3652	Phonograph Records and Prerecorded Audio Tapes and Disks (integrated record companies, except duplication only)
334210	Telephone Apparatus Manufacturing	3661	Telephone and Telegraph Apparatus (except consumer external modems)
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	3661	Telephone and Telegraph Apparatus (consumer external modems)
334220	Radio and Television Broadcasting and	3663	Radio and Television Broadcasting and Communications Equipment

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Wireless Communications Equipment Manufacturing		
334290	Other Communications Equipment Manufacturing	3669	Communications Equipment, NEC
334411	Electron Tube Manufacturing	3671	Electron Tubes
334412	Bare Printed Circuit Board Manufacturing	3672	Printed Circuit Boards
334413	Semiconductor and Related Device Manufacturing	3674	Semiconductors and Related Devices
334414	Electronic Capacitor Manufacturing	3675	Electronic Capacitors
334415	Electronic Resistor Manufacturing	3676	Electronic Resistors
334416	Electronic Coil, Transformer, and Other Inductor Manufacturing	3677	Electronic Coils, Transformers, and Other Inductors
334417	Electronic Connector Manufacturing	3678	Electronic Connectors
334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	3679	Electronic Components, NEC (antennas)
334310	Audio and Video Equipment Manufacturing	3679	Electronic Components, NEC (radio headphones)
334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing	3679	Electronic Components, NEC (printed circuit/electronic assembly manufacturing)
334419	Other Electronic Component Manufacturing	3679	Electronic Components, NEC (other electronic components)
335911	Storage Battery Manufacturing	3691	Storage Batteries
335912	Primary Battery Manufacturing	3692	Primary Batteries, Dry and Wet
336322	Other Motor Vehicle Electrical and Electronic Equipment Manufacturing	3694	Electrical Equipment for Internal Combustion Engines
334613	Magnetic and Optical Recording Media Manufacturing	3695	Magnetic and Optical Recording Media
333319	Other Commercial and Service Industry Machinery Manufacturing	3699	Electrical Machinery, Equipment, and Supplies, NEC (electronic teaching machines and flight simulators)
333618	Other Engine Equipment Manufacturing	3699	Electrical Machinery, Equipment, and Supplies, NEC (outboard electric motors)
333992	Welding and Soldering Equipment Manufacturing	3699	Electrical Machinery Equipment, and Supplies, NEC (laser welding and soldering equipment)
335129	Other Lighting Equipment Manufacturing	3699	Electrical Machinery, Equipment, and Supplies, NEC (Christmas tree lighting sets, electric insect lamps, electric fireplace logs, and trouble lights)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing	3699	Electrical Machinery, Equipment, and Supplies, NEC (other electrical industrial apparatus)
	Transportation Equipment		
336111	Automobile Manufacturing	3711	Motor Vehicles and Passenger Car Bodies (automobiles)
336112	Light Truck and Utility Vehicle Manufacturing	3711	Motor Vehicles and Passenger Car Bodies (light trucks and utility vehicles)
336120	Heavy Duty Truck Manufacturing	3711	Motor Vehicles and Passenger Car Bodies (heavy duty trucks)
336211	Motor Vehicle Body Manufacturing	3711	Motor Vehicles and Passenger Car Bodies (kit car and other passenger car bodies)
336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing	3711	Motor Vehicles and Passenger Car Bodies (military armored vehicles)
336211	Motor Vehicle Body Manufacturing	3713	Truck and Bus Bodies
336211	Motor Vehicle Body Manufacturing	3714	Motor Vehicle Parts and Accessories (dump truck lifting mechanisms and fifth wheels)
336312	Gasoline Engine and Engine Parts Manufacturing	3714	Motor Vehicle Parts and Accessories (gasoline engines and engine parts including rebuilt)
336322	Other Motor Vehicle Electrical and Electronic Equipment Manufacturing	3714	Motor Vehicle Parts and Accessories (wiring harness sets, other than ignition; block heaters and battery heaters; instrument board assemblies; permanent defrosters; windshield washer-wiper mechanisms; cruise control mechanisms; and other electrical equipment for internal combustion engines)
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	3714	Motor Vehicle Parts and Accessories (steering and suspension parts)
336340	Motor Vehicle Brake System Manufacturing	3714	Motor Vehicle Parts and Accessories (brake and brake systems, including assemblies)
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	3714	Motor Vehicle Parts and Accessories (transmissions and power train parts, including rebuilding)
336399	All Other Motor Vehicle Parts Manufacturing	3714	Motor Vehicle Parts and Accessories (except truck and bus bodies, trailers, engine and engine parts, motor vehicle electrical and electronic equipment, motor vehicle steering and suspension components, motor vehicle brake systems, and motor vehicle transmission and power train parts)
336212	Truck Trailer Manufacturing	3715	Truck Trailers

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
336213	Motor Home Manufacturing	3716	Motor Homes
336411	Aircraft Manufacturing	3721	Aircraft (except research and development not producing prototypes)
541710	Research and Development in the Physical, Engineering, and Life Sciences	3721	Aircraft (research and development not producing prototypes)
336412	Aircraft Engine and Engine Parts Manufacturing	3724	Aircraft Engines and Engine Parts (except research and development not producing prototypes)
541710	Research and Development in the Physical, Engineering, and Life Sciences	3724	Aircraft Engines and Engine Parts (research and development not producing prototypes)
332912	Fluid Power Valve and Hose Fitting Manufacturing	3728	Aircraft Parts and Auxiliary Equipment, NEC (fluid power aircraft subassemblies)
336411	Aircraft Manufacturing	3728	Aircraft Parts and Auxiliary Equipment, NEC (target drones)
336413	Other Aircraft Part and Auxiliary Equipment Manufacturing	3728	Aircraft Parts and Auxiliary Equipment, NEC (except fluid power aircraft subassemblies, target drones, and research and development not producing prototypes)
541710	Research and Development in the Physical, Engineering, and Life Sciences	3728	Aircraft Parts and Auxiliary Equipment, NEC (research and development not producing prototypes)
336611	Ship Building and Repairing	3731	Ship Building and Repairing (except repairs in floating drydocks)
488390	Other Support Activities for Water Transportation	3731	Ship Building and Repairing (repair services provided by floating drydocks)
336612	Boat Building	3732	Boat Building and Repairing (boat building)
811490	Other Personal and Household Goods Repair and Maintenance	3732	Boat Building and Repairing (pleasure boat repair)
333911	Pump and Pumping Equipment Manufacturing	3743	Railroad Equipment (locomotive fuel lubricating or cooling medium pumps)
336510	Railroad Rolling Stock Manufacturing	3743	Railroad Equipment (except locomotive fuel lubricating or cooling medium pumps)
336991	Motorcycle, Bicycle, and Parts Manufacturing	3751	Motorcycles, Bicycles, and Parts
336414	Guided Missile and Space Vehicle Manufacturing	3761	Guided Missiles and Space Vehicles (except research and development not producing prototypes)
541710	Research and Development in the Physical, Engineering, and Life Sciences	3761	Guided Missiles and Space Vehicles (research and development not producing prototypes)
336415	Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing	3764	Guided Missile and Space Vehicle Propulsion Units and Propulsion Unit Parts (except research and development not producing prototypes))

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
541710	Research and Development in the Physical, Engineering, and Life Sciences	3764	Guided Missile and Space Vehicle Propulsion Units and Propulsion Unit Parts (research and development not producing prototypes)
336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing	3769	Guided Missile and Space Vehicle Parts and Auxiliary Equipment, NEC (except research and development not producing prototypes)
541710	Research and Development in the Physical, Engineering, and Life Sciences	3769	Guided Missile and Space Vehicle Parts and Auxiliary Equipment, NEC (research and development not producing prototypes)
336214	Travel Trailer and Camper Manufacturing	3792	Travel Trailers and Campers
336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing	3795	Tanks and Tank Components
333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	3799	Transportation Equipment, NEC (wheelbarrows)
336214	Travel Trailer and Camper Manufacturing	3799	Transportation Equipment, NEC (automobile, boat, utility and light truck trailers)
336399	All Other Motor Vehicle Parts Manufacturing	3799	Transportation Equipment, NEC (trailer hitches)
336999	All Other Transportation Equipment Manufacturing	3799	Transportation Equipment, NEC (except automobile, boat, utility light truck trailers, trailer hitches, and wheelbarrows)
Instruments and Related Products			
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	3812	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical Systems and Instruments
339111	Laboratory Apparatus and Furniture Manufacturing	3821	Laboratory Apparatus and Furniture
334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use	3822	Automatic Controls for Regulating Residential and Commercial Environments and Appliances
334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables	3823	Industrial Instruments for Measurement, Display, and Control of Process Variables; and Related Products
334514	Totalizing Fluid Meter and Counting Device Manufacturing	3824	Totalizing Fluid Meters and Counting Devices
334514	Totalizing Fluid Meter and Counting Device Manufacturing	3825	Instruments for Measuring and Testing of Electricity and Electrical Signals (automotive ammeters and voltmeters)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	3825	Instruments for Measuring and Testing of Electricity and Electrical Signals (except automotive instruments)
334516	Analytical Laboratory Instrument Manufacturing	3826	Laboratory Analytical Instruments
333314	Optical Instrument and Lens Manufacturing	3827	Optical Instruments and Lenses
334514	Totalizing Fluid Meter and Counting Device Manufacturing	3829	Measuring and Controlling Devices, NEC (motor vehicle gauges)
334518	Watch, Clock, and Part Manufacturing	3829	Measuring and Controlling Devices, NEC (electronic chronometers)
334519	Other Measuring and Controlling Device Manufacturing	3829	Measuring and Controlling Devices, NEC (except medical thermometers, electronic chronometers and motor vehicle gauges)
339112	Surgical and Medical Instrument Manufacturing	3829	Measuring and Controlling Devices, NEC (medical thermometers)
332994	Small Arms Manufacturing	3841	Surgical and Medical Instruments and Apparatus (tranquilizer guns)
339111	Laboratory Apparatus and Furniture Manufacturing	3841	Surgical and Medical Instruments and Apparatus (operating room tables)
339112	Surgical and Medical Instrument Manufacturing	3841	Surgical and Medical Instruments and Apparatus (except tranquilizer guns and operating room tables)
322291	Sanitary Paper Product Manufacturing	3842	Orthopedic, Prosthetic, and Surgical Appliances and Supplies (incontinent pads and bed pads)
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	3842	Orthopedic, Prosthetic, and Surgical Appliances and Supplies (electronic hearing aids)
339113	Surgical Appliance and Supplies Manufacturing	3842	Orthopedic, Prosthetic, and Surgical Appliances and Supplies (except electronic hearing aids, incontinent pads, anatomical models, and bed pads)
339999	All Other Miscellaneous Manufacturing	3842	Orthopedic, Prosthetic, and Surgical Appliances and Supplies (anatomical models)
339114	Dental Equipment and Supplies Manufacturing	3843	Dental Equipment and Supplies
334517	Irradiation Apparatus Manufacturing	3844	X-Ray Apparatus and Tubes and Related Irradiation Apparatus
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing	3845	Electromedical and Electrotherapeutic Apparatus (except CT and CAT scanners)
334517	Irradiation Apparatus Manufacturing	3845	Electromedical and Electrotherapeutic Apparatus (CT and CAT Scanners)
339113	Surgical Appliance and Supplies Manufacturing	3851	Ophthalmic Goods (intraocular lenses, i.e., surgical implants)
339115	Ophthalmic Goods Manufacturing	3851	Ophthalmic Goods (except intraocular lenses)
325992	Photographic Film, Paper, Plate, and Chemical Manufacturing	3861	Photographic Equipment and Supplies (photographic films, paper, plates and chemicals)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
333315	Photographic and Photocopying Equipment Manufacturing	3861	Photographic Equipment and Supplies (except photographic film, paper, plates, and chemicals)
334518	Watch, Clock, and Part Manufacturing	3873	Watches, Clocks, Clockwork Operated Devices, and Parts
Miscellaneous Manufacturing Industries			
339911	Jewelry (except Costume) Manufacturing	3911	Jewelry, Precious Metal
332211	Cutlery and Flatware (except Precious) Manufacturing	3914	Silverware, Plated Ware, and Stainless Steel Ware (cutlery and flatware, nonprecious and precious plated)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3914	Silverware, Plated Ware, and Stainless Steel Ware (precious metal plated hollowware)
339912	Silverware and Holloware Manufacturing	3914	Silverware, Plated Ware, and Stainless Steel Ware (except nonprecious and precious plated metal cutlery, flatware, and hollowware)
334518	Watch, Clock, and Part Manufacturing	3915	Jewelers Findings and Materials and Lapidary Work (watch jewels)
339913	Jewelers' Material and Lapidary Work Manufacturing	3915	Jewelers' Findings and Materials, and Lapidary Work (except watch jewels)
339992	Musical Instrument Manufacturing	3931	Musical Instruments
339931	Doll and Stuffed Toy Manufacturing	3942	Dolls and Stuffed Toys
336991	Motorcycle, Bicycle, and Parts Manufacturing	3944	Games, Toys, and Children's Vehicles, Except Dolls and Bicycles (metal tricycles)
339932	Game, Toy, and Children's Vehicle Manufacturing	3944	Games, Toys, and Children's Vehicles, Except Dolls and Bicycles (except metal tricycles)
339920	Sporting and Athletic Goods Manufacturing	3949	Sporting and Athletic Goods, NEC
339941	Pen and Mechanical Pencil Manufacturing	3951	Pens, Mechanical Pencils, and Parts
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	3952	Lead Pencils and Art Goods (drawing inks and india ink)
337127	Institutional Furniture Manufacturing	3952	Lead Pencils, Crayons, and Artists' Materials (drafting tables and boards)
339942	Lead Pencil and Art Good Manufacturing	3952	Lead Pencils, Crayons, and Artists' Materials (except drawing ink, india ink, drafting tables and drafting boards)
339943	Marking Device Manufacturing	3953	Marking Devices
339944	Carbon Paper and Inked Ribbon Manufacturing	3955	Carbon Paper and Inked Ribbons

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
339914	Costume Jewelry and Novelty Manufacturing	3961	Costume Jewelry and Costume Novelties, Except Precious Metal (except cuff links)
339993	Fastener, Button, Needle, and Pin Manufacturing	3961	Costume Jewelry and Costume Novelties, Except Precious Metal (nonprecious cuff links)
339993	Fastener, Button, Needle, and Pin Manufacturing	3965	Fasteners, Buttons, Needles, and Pins
339994	Broom, Brush, and Mop Manufacturing	3991	Brooms and Brushes
323113	Commercial Screen Printing	3993	Signs and Advertising Specialties (screen printing purchased advertising specialties)
339950	Sign Manufacturing	3993	Signs and Advertising Specialties (signs)
339995	Burial Casket Manufacturing	3995	Burial Caskets
326192	Resilient Floor Covering Manufacturing	3996	Linoleum, Asphalted-Felt-Base, and Other Hard Surface Floor Coverings, NEC
316110	Leather and Hide Tanning and Finishing	3999	Manufacturing Industries, NEC (fur dressing and finishing)
321999	All Other Miscellaneous Wood Product Manufacturing	3999	Manufacturing Industries, NEC (burnt wood articles)
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	3999	Manufacturing Industries, NEC (matches)
326199	All Other Plastics Product Manufacturing	3999	Manufacturing Industries, NEC (plastics products such as combs, hair curlers, etc.)
332211	Cutlery and Flatware (except Precious) Manufacturing	3999	Manufacturing Industries, NEC (hand operated hair clippers for humans)
332212	Hand and Edge Tool Manufacturing	3999	Manufacturing Industries, NEC (tape measures)
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers	3999	Manufacturing Industries, NEC (flocking metal products for the trade)
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	3999	Manufacturing Industries, NEC (other miscellaneous metal products, such as combs, hair curlers, etc.)
333319	Other Commercial and Service Industry Machinery Manufacturing	3999	Manufacturing Industries, NEC (beauty and barber shop equipment, except chairs)
335121	Residential Electric Lighting Fixture Manufacturing	3999	Manufacturing Industries, NEC (lamp shades of paper or textile)
335211	Electric Housewares and Household Fan Manufacturing	3999	Manufacturing Industries, NEC (electric hair clippers for humans)
337127	Institutional Furniture Manufacturing	3999	Manufacturing Industries, NEC (beauty and barber chairs)
339932	Game, Toy, and Children's Vehicle Manufacturing	3999	Manufacturing Industries, NEC (embroidery kits)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
339999	All Other Miscellaneous Manufacturing	3999	Manufacturing Industries, NEC (other miscellaneous products not specially provided for previously)
Railroad Transportation			
482111	Line-Haul Railroads	4011	Railroads, Line-Haul Operating
482112	Short Line Railroads	4013	Railroad Switching and Terminal Establishments (short line railroads)
488210	Support Activities for Rail Transportation	4013	Railroad Switching and Terminal Establishments (except short line railroads)
Water Transportation			
483111	Deep Sea Freight Transportation	4412	Deep Sea Foreign Transportation of Freight
483113	Coastal and Great Lakes Freight Transportation	4424	Deep Sea Domestic Transportation of Freight
483113	Coastal and Great Lakes Freight Transportation	4432	Freight Transportation on the Great Lakes - St. Lawrence Seaway
483211	Inland Water Freight Transportation	4449	Water Transportation of Freight, NEC
483112	Deep Sea Passenger Transportation	4481	Deep Sea Transportation of Passengers, Except by Ferry (deep sea activities)
483114	Coastal and Great Lakes Passenger Transportation	4481	Deep Sea Transportation of Passengers, Except by Ferry (coastal activities)
483114	Coastal and Great Lakes Passenger Transportation	4482	Ferries (coastal and Great Lakes)
483212	Inland Water Passenger Transportation	4482	Ferries (inland)
483212	Inland Water Passenger Transportation	4489	Water Transportation of Passengers, NEC (water taxi)
487210	Scenic and Sightseeing Transportation, Water	4489	Water Transportation of Passengers, NEC (airboats, excursion boats, and sightseeing boats)
488310	Port and Harbor Operations	4491	Marine Cargo Handling (dock and pier operations)
488320	Marine Cargo Handling	4491	Marine Cargo Handling (all but dock and pier operations)
488330	Navigational Services to Shipping	4492	Towing and Tugboat Services
713930	Marinas	4493	Marinas
483211	Inland Water Freight Transportation	4499	Water Transportation Services, NEC (lighterage)
488310	Port and Harbor Operations	4499	Water Transportation Services, NEC (lighthouse and canal operations)
488330	Navigational Services to Shipping	4499	Water Transportation Services, NEC (piloting vessels in and out of harbors and marine salvage)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
488390	Other Support Activities for Water Transportation	4499	Water Transportation Services, NEC (all but lighthouse operations, piloting vessels in and out of harbors, boat and ship rental, marine salvage, lighterage, marine surveyor services, and canal operations)
532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	4499	Water Transportation Services, NEC (boat and ship rental, commercial)
541990	All Other Professional, Scientific, and Technical Services	4499	Water Transportation Services, NEC (marine surveying services)
Transportation by Air			
481111	Scheduled Passenger Air Transportation	4512	Air Transportation, Scheduled (passenger)
481112	Scheduled Freight Air Transportation	4512	Air Transportation, Scheduled (freight)
492110	Couriers	4513	Air Courier Services
481211	Nonscheduled Chartered Passenger Air Transportation	4522	Air Transportation, Nonscheduled (passenger)
481212	Nonscheduled Chartered Freight Air Transportation	4522	Air Transportation, Nonscheduled (freight)
481219	Other Nonscheduled Air Transportation	4522	Air Transportation, Nonscheduled (using general purpose aircraft for a variety of passenger, freight, courier, and other uses)
487990	Scenic and Sightseeing Transportation, Other	4522	Air Transportation, Nonscheduled (sightseeing planes)
621910	Ambulance Services	4522	Air Transportation, Nonscheduled (air ambulance)
488111	Air Traffic Control	4581	Airports, Flying Fields, and Airport Terminal Services (private air traffic control)
488119	Other Airport Operations	4581	Airports, Flying Fields, and Airport Terminal Services (air freight handling at airports, hangar operations, airport terminal services, aircraft storage, airports, and flying fields)
488190	Other Support Activities for Air Transportation	4581	Airports, Flying Fields, and Airport Terminal Services (aircraft servicing and repairing)
561720	Janitorial Services	4581	Airports, Flying Fields, and Airport Terminal Services (airplane cleaning and janitorial services)
811420	Reupholstery and Furniture Repair	4581	Airports, Flying Fields, and Airport Terminal Services (aircraft upholstery repair)
Pipelines, Except Natural Gas			
486110	Pipeline Transportation of Crude Oil	4612	Crude Petroleum Pipelines
486910	Pipeline Transportation of Refined Petroleum	4613	Refined Petroleum Pipelines

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Products		
486990	All Other Pipeline Transportation	4619	Pipelines, NEC
	Transportation Services		
561510	Travel Agencies	4724	Travel Agencies
561520	Tour Operators	4725	Tour Operators
488999	All Other Support Activities for Transportation	4729	Arrangement of Passenger Transportation, NEC (arrangement of carpools and vanpools)
561599	All Other Travel Arrangement and Reservation Services	4729	Arrangement of Passenger Transportation, NEC (except arrangement of vanpools and carpools)
488510	Freight Transportation Arrangement	4731	Arrangement of Transportation of Freight and Cargo (except freight rate auditors, private mail centers, and tariff consultants)
541614	Process, Physical Distribution, and Logistics Consulting Services	4731	Arrangement of Transportation of Freight and Cargo (freight rate-auditors and tariff consulting)
488210	Support Activities for Rail Transportation	4741	Rental of Railroad Cars (grain leveling in railroad cars, grain trimming for railroad equipment, precooling of fruits and vegetables in connection with transportation, and railroad car cleaning, icing, ventilating, and heating)
532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	4741	Rental of Railroad Cars (rental of railroad cars)
488991	Packing and Crating	4783	Packing and Crating
488390	Other Support Activities for Water Transportation	4785	Fixed Facilities and Inspection and Weighing Services for Motor Vehicle Transportation (marine cargo checkers)
488490	Other Support Activities for Road Transportation	4785	Fixed Facilities and Inspection and Weighing Services for Motor Vehicle Transportation (except marine cargo checkers)
487110	Scenic and Sightseeing Transportation, Land	4789	Transportation Services, NEC (horse-drawn cabs and carriages)
488210	Support Activities for Rail Transportation	4789	Transportation Services, NEC (car loading and unloading; cleaning of railroad ballast; dining, parlor, sleeping, and other car operations; and railroad maintenance)
488999	All Other Support Activities for Transportation	4789	Transportation Services, NEC (pipeline terminals and stockyards for transportation)
722310	Food Service Contractors	4789	Transportation Services, NEC (dining car operations on a fee or contract basis)
	Communication		
517211	Paging	4812	Radiotelephone Communications (paging)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
			carriers)
517212	Cellular and Other Wireless Telecommunications	4812	Radiotelephone Communications (cellular carriers)
517310	Telecommunications Resellers	4812	Radiotelephone Communications (paging and cellular resellers)
517110	Wired Telecommunications Carriers	4813	Telephone Communications, Except Radiotelephone (except resellers)
517310	Telecommunications Resellers	4813	Telephone Communications, Except Radiotelephone (resellers)
517110	Wired Telecommunications Carriers	4822	Telegraph and Other Message Communications
515111	Radio Networks	4832	Radio Broadcasting Stations (networks)
515112	Radio Stations	4832	Radio Broadcasting Stations (except networks)
515120	Television Broadcasting	4833	Television Broadcasting Stations
515210	Cable and Other Subscription Programming	4841	Cable and Other Pay Television Services (cable networks)
517510	Cable and Other Program Distribution	4841	Cable and Other Pay Television Services (except cable and other subscription programming)
485310	Taxi Service	4899	Communications Services, NEC (radio broadcasting operated by cab companies)
517212	Cellular and Other Wireless Telecommunications	4899	Communications Services, NEC (ship to shore broadcasting carriers)
517410	Satellite Telecommunications	4899	Communications Services, NEC (satellite communications)
517910	Other Telecommunications	4899	Communications Services, NEC (except ship to shore broadcasting, satellite communications, pay telephone concession operators)
812990	All Other Personal Services	4899	Communications Services, NEC (pay telephone concession operators)
Electric, Gas, and Sanitary Services			
221111	Hydroelectric Power Generation	4911	Electric Services (hydroelectric power generation)
221112	Fossil Fuel Electric Power Generation	4911	Electric Services (fossil fuel power generation)
221113	Nuclear Electric Power Generation	4911	Electric Services (nuclear electric power generation)
221119	Other Electric Power Generation	4911	Electric Services (other electric power generation)
221121	Electric Bulk Power Transmission and Control	4911	Electric Services (electric power transmission and control)
221122	Electric Power Distribution	4911	Electric Services (electric power distribution)
486210	Pipeline Transportation of Natural Gas	4922	Natural Gas Transmission

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
221210	Natural Gas Distribution	4923	Natural Gas Transmission and Distribution (distribution)
486210	Pipeline Transportation of Natural Gas	4923	Natural Gas Transmission and Distribution (transmission)
221210	Natural Gas Distribution	4924	Natural Gas Distribution
221210	Natural Gas Distribution	4925	Mixed, Manufactured, or Liquefied Petroleum Gas Production and/or Distribution
221111	Hydroelectric Power Generation	4931	Electric and Other Services Combined (hydroelectric power generation)
221112	Fossil Fuel Electric Power Generation	4931	Electric and Other Services Combined (fossil fuel power generation)
221113	Nuclear Electric Power Generation	4931	Electric and Other Services Combined (nuclear power generation)
221119	Other Electric Power Generation	4931	Electric and Other Services Combined (other electric power generation)
221121	Electric Bulk Power Transmission and Control	4931	Electric and Other Services Combined (electric power transmission and control)
221122	Electric Power Distribution	4931	Electric and Other Services Combined (electric power distribution)
221210	Natural Gas Distribution	4931	Electric and Other Services Combined (natural gas distribution)
221210	Natural Gas Distribution	4932	Gas and Other Services Combined (natural gas distribution)
221111	Hydroelectric Power Generation	4939	Combination Utilities, NEC (hydroelectric power generation)
221112	Fossil Fuel Electric Power Generation	4939	Combination Utilities, NEC (fossil fuel power generation)
221113	Nuclear Electric Power Generation	4939	Combination Utilities, NEC (nuclear power generation)
221119	Other Electric Power Generation	4939	Combination Utilities, NEC (other electric power generation)
221121	Electric Bulk Power Transmission and Control	4939	Combination Utilities, NEC (electric power transmission and control)
221122	Electric Power Distribution	4939	Combination Utilities, NEC (electric power distribution)
221210	Natural Gas Distribution	4939	Combination Utilities, NEC (natural gas distribution)
221310	Water Supply and Irrigation Systems	4941	Water Supply
221320	Sewage Treatment Facilities	4952	Sewerage Systems
562211	Hazardous Waste Treatment and Disposal	4953	Refuse Systems (hazardous waste treatment and disposal)
562212	Solid Waste Landfill	4953	Refuse Systems (solid waste landfills)
562213	Solid Waste Combustors and Incinerators	4953	Refuse Systems (solid waste combustors and incinerators)
562219	Other Nonhazardous Waste Treatment and Disposal	4953	Refuse Systems (other nonhazardous waste treatment and disposal)
562920	Materials Recovery Facilities	4953	Refuse Systems (materials recovery facilities)
488119	Other Airport Operations	4959	Sanitary Services, NEC (vacuuming of

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
488490	Other Support Activities for Road Transportation	4959	runways) Sanitary Services, NEC (snow plowing and sweeping streets and highways)
561710	Exterminating and Pest Control Services	4959	Sanitary Services, NEC (mosquito eradication)
561790	Other Services to Buildings and Dwellings	4959	Sanitary Services, NEC (cleaning parking lots and driveways)
562910	Remediation Services	4959	Sanitary Services, NEC (remediation services)
562998	All Other Miscellaneous Waste Management Services	4959	Sanitary Services, NEC (all but remediation services, malaria control, mosquito eradication, snow plowing, street sweeping, and airport runway vacuuming)
221330	Steam and Air-Conditioning Supply	4961	Steam and Air-Conditioning Supply
221310	Water Supply and Irrigation Systems	4971	Irrigation Systems
Wholesale Trade - Durable Goods			
423110	Automobile and Other Motor Vehicle Merchant Wholesalers	5012	Automobiles and Other Motor Vehicles (merchant wholesalers)
425110	Business to Business Electronic Markets	5012	Automobiles and Other Motor Vehicles (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5012	Automobiles and Other Motor Vehicles (agents and brokers)
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	5013	Motor Vehicle Supplies and New Parts (merchant wholesalers except those selling via retail method)
425110	Business to Business Electronic Markets	5013	Motor Vehicle Supplies and New Parts (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5013	Motor Vehicle Supplies and New Parts (agents and brokers)
441310	Automotive Parts and Accessories Stores	5013	Motor Vehicle Supplies and New Parts (auto parts sold via retail method)
423130	Tire and Tube Merchant Wholesalers	5014	Tires and Tubes (merchant wholesalers except those selling via retail method)
425110	Business to Business Electronic Markets	5014	Tires and Tubes (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5014	Tires and Tubes (agents and brokers)
441320	Tire Dealers	5014	Tires and Tubes (tires and tubes sold via retail method)
423140	Motor Vehicle Parts (Used) Merchant Wholesalers	5015	Motor Vehicle Parts, Used (merchant wholesalers except those selling via retail method)
425110	Business to Business Electronic Markets	5015	Motor Vehicle Parts, Used (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5015	Motor Vehicle Parts, Used (agents and brokers)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
441310	Automotive Parts and Accessories Stores	5015	Motor Vehicle Parts, Used (used auto parts sold via the retail method)
423210	Furniture Merchant Wholesalers	5021	Furniture (merchant wholesalers except those selling via retail method)
425110	Business to Business Electronic Markets	5021	Furniture (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5021	Furniture (agents and brokers)
442110	Furniture Stores	5021	Furniture (furniture sold via the retail method)
423220	Home Furnishing Merchant Wholesalers	5023	Homefurnishings (merchant wholesalers except those selling via retail method)
425110	Business to Business Electronic Markets	5023	Homefurnishings (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5023	Homefurnishings (agents and brokers)
442210	Floor Covering Stores	5023	Homefurnishings (floor coverings sold via retail method)
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	5031	Lumber, Plywood, Millwork, and Wood Panels (merchant wholesalers)
425110	Business to Business Electronic Markets	5031	Lumber, Plywood, Millwork, and Wood Panels (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5031	Lumber, Plywood, Millwork, and Wood Panels (agents and brokers)
444110	Home Centers	5031	Lumber, Plywood, Millwork, and Wood Panels (sold via retail method)
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	5032	Brick, Stone, and Related Construction Materials (merchant wholesalers except construction materials sold via retail method)
425110	Business to Business Electronic Markets	5032	Brick, Stone, and Related Construction Materials (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5032	Brick, Stone, and Related Construction Materials (agents and brokers)
444190	Other Building Material Dealers	5032	Brick, Stone, and Related Construction Materials (brick, stone, and related construction materials sold via retail method)
423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	5033	Roofing, Siding, and Insulation Materials (merchant wholesalers except those selling via retail method)
425110	Business to Business Electronic Markets	5033	Roofing, Siding, and Insulation Materials (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5033	Roofing, Siding, and Insulation Materials (agents and brokers)
444190	Other Building Material Dealers	5033	Roofing, Siding, and Insulation Materials (roofing, siding, and insulation materials sold via retail method)
423310	Lumber, Plywood, Millwork, and Wood Panel	5039	Construction Materials, NEC (merchant wholesalers of prefabricated buildings and

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Merchant Wholesalers		structural assemblies, wood)
423390	Other Construction Material Merchant Wholesalers	5039	Construction Materials, NEC (merchant wholesalers of construction materials, nec except wood prefabricated buildings and structural assemblies and merchant wholesalers selling via retail method)
425110	Business to Business Electronic Markets	5039	Construction Materials, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5039	Construction Materials, NEC (agents and brokers)
444190	Other Building Material Dealers	5039	Construction Materials, NEC (glass sold via retail method)
423410	Photographic Equipment and Supplies Merchant Wholesalers	5043	Photographic Equipment and Supplies (merchant wholesalers)
425110	Business to Business Electronic Markets	5043	Photographic Equipment and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5043	Photographic Equipment and Supplies (agents and brokers)
423420	Office Equipment Merchant Wholesalers	5044	Office Equipment (merchant wholesalers except those selling office equipment via retail method)
425110	Business to Business Electronic Markets	5044	Office Equipment (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5044	Office Equipment (agents and brokers)
453210	Office Supplies and Stationary Stores	5044	Office Equipment (office equipment sold via retail method)
423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers	5045	Computers and Computer Peripheral Equipment and Software (merchant wholesalers except those selling computers, equipment, and software via retail method)
425110	Business to Business Electronic Markets	5045	Computers and Computer Peripheral Equipment and Software (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5045	Computers and Computer Peripheral Equipment and Software (agents and brokers)
443120	Computer and Software Stores	5045	Computers and Computer Peripheral Equipment and Software (computers, peripherals, and software sold via retail method)
423440	Other Commercial Equipment Merchant Wholesalers	5046	Commercial Equipment, NEC (merchant wholesalers)
425110	Business to Business Electronic Markets	5046	Commercial Equipment, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5046	Commercial Equipment, NEC (agents and brokers)
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	5047	Medical, Dental and Hospital Equipment and Supplies (merchant wholesalers except those selling medical, dental, and hospital equipment and supplies via retail method)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
425110	Business to Business Electronic Markets	5047	Medical, Dental and Hospital Equipment and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5047	Medical, Dental and Hospital Equipment and Supplies (agents and brokers)
446199	All Other Health and Personal Care Stores	5047	Medical, Dental, and Hospital Equipment and Supplies (medical, dental, and hospital equipment and supplies sold via retail method)
423460	Ophthalmic Goods Merchant Wholesalers	5048	Ophthalmic Goods (merchant wholesalers)
425110	Business to Business Electronic Markets	5048	Ophthalmic Goods (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5048	Ophthalmic Goods (agents and brokers)
423490	Other Professional Equipment and Supplies Merchant Wholesalers	5049	Professional Equipment and Supplies, NEC (merchant wholesalers except those selling religious and teacher's school supplies via retail method)
425110	Business to Business Electronic Markets	5049	Professional Equipment and Supplies, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5049	Professional Equipment and Supplies, NEC (agents and brokers)
453210	Office Supplies and Stationery Stores	5049	Professional Equipment and Supplies, NEC (religious and teacher's school supplies sold via retail method)
423510	Metal Service Centers and Other Metal Merchant Wholesalers	5051	Metals Service Centers and Offices (merchant wholesalers)
425110	Business to Business Electronic Markets	5051	Metals Service Centers and Offices (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5051	Metals Service Centers and Offices (agents and brokers)
423520	Coal and Other Mineral and Ore Merchant Wholesalers	5052	Coal and Other Minerals and Ores (merchant wholesalers)
425110	Business to Business Electronic Markets	5052	Coal and Other Minerals and Ores (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5052	Coal and Other Minerals and Ores (agents and brokers)
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	5063	Electrical Apparatus and Equipment, Wiring Supplies and Construction Materials (merchant wholesalers except those selling electrical supplies, equipment, and apparatus via retail method)
425110	Business to Business Electronic Markets	5063	Electrical Apparatus and Equipment, Wiring Supplies and Construction Materials (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5063	Electrical Apparatus and Equipment, Wiring Supplies and Construction Materials (agents and brokers)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
444190	Other Building Material Dealers	5063	Electrical Apparatus and Equipment, Wiring Supplies, and Construction Materials (electrical supplies, equipment, and apparatus sold via retail method)
423620	Electrical and Electronic Appliance, Television, and Radio Set Merchant Wholesalers	5064	Electrical Appliances, Television and Radio Sets (merchant wholesalers except those selling appliances, TVs, and radios via retail method)
425110	Business to Business Electronic Markets	5064	Electrical Appliances, Television and Radio Sets (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5064	Electrical Appliances, Television and Radio Sets (agents and brokers)
443111	Household Appliance Stores	5064	Electrical Appliances, Television and Radio Sets (household appliances sold via retail method)
443112	Radio, Television, and Other Electronics Stores	5064	Electrical Appliances, Television and Radio Sets (television and radio sets sold via retail method)
444190	Other Building Material Dealers	5064	Electrical Appliances, Television and Radio Sets (ceiling fans sold via retail method)
423690	Other Electronic Parts and Equipment Merchant Wholesalers	5065	Electronic Parts and Equipment, NEC (merchant wholesalers except those selling electronic parts and equipment via retail method)
425110	Business to Business Electronic Markets	5065	Electronic Parts and Equipment, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5065	Electronic Parts and Equipment, NEC (agents and brokers)
443112	Radio, Television, and Other Electronics Stores	5065	Electronic Parts and Equipment, NEC (amateur radios, CB's, intercommunications equipment, public address equipment, and similar communications equipment sold via retail method)
443120	Computer and Software Stores	5065	Electronic Parts and Equipment, NEC (modems and other computer components sold via retail method)
423710	Hardware Merchant Wholesalers	5072	Hardware (merchant wholesalers except those selling hardware via retail method)
425110	Business to Business Electronic Markets	5072	Hardware (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5072	Hardware (agents and brokers)
444130	Hardware Stores	5072	Hardware (hardware sold via retail method)
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	5074	Plumbing and Heating Equipment and Supplies (Hydronics) (merchant wholesalers except those selling plumbing and hydronic heating equipment via retail method)
425110	Business to Business Electronic Markets	5074	Plumbing and Heating Equipment and Supplies (Hydronics) (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5074	Plumbing and Heating Equipment and Supplies (Hydronics) (agents and brokers)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
444190	Other Building Material Dealers	5074	Plumbing and Heating Equipment and Supplies (Hydronics)(plumbing and hydronic heating equipment sold via retail method)
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	5075	Warm Air Heating and Air-Conditioning Equipment and Supplies (merchant wholesalers)
425110	Business to Business Electronic Markets	5075	Warm Air Heating and Air-Conditioning Equipment and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5075	Warm Air Heating and Air-Conditioning Equipment and Supplies (agents and brokers)
423740	Refrigeration Equipment and Supplies Merchant Wholesalers	5078	Refrigeration Equipment and Supplies (merchant wholesalers)
425110	Business to Business Electronic Markets	5078	Refrigeration Equipment and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5078	Refrigeration Equipment and Supplies (agents and brokers)
423810	Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	5082	Construction and Mining (Except Petroleum) Machinery and Equipment (merchant wholesalers)
425110	Business to Business Electronic Markets	5082	Construction and Mining (Except Petroleum) Machinery and Equipment (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5082	Construction and Mining (Except Petroleum) Machinery and Equipment (agents and brokers)
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	5083	Farm and Garden Machinery and Equipment (merchant wholesalers except those selling lawn and garden equipment via retail method)
425110	Business to Business Electronic Markets	5083	Farm and Garden Machinery and Equipment (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5083	Farm and Garden Machinery and Equipment (agents and brokers)
444210	Outdoor Power Equipment Stores	5083	Farm and Garden Machinery and Equipment (lawn and garden equipment sold via retail method)
423830	Industrial Machinery and Equipment Merchant Wholesalers	5084	Industrial Machinery and Equipment (merchant wholesalers)
425110	Business to Business Electronic Markets	5084	Industrial Machinery and Equipment (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5084	Industrial Machinery and Equipment (agents and brokers)
423830	Industrial Machinery and Equipment Merchant Wholesalers	5085	Industrial Supplies (merchant wholesalers of fluid power accessories)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
423840	Industrial Supplies Merchant Wholesalers	5085	Industrial Supplies (merchant wholesalers of industrial supplies except fluid power accessories and merchant wholesalers selling industrial supplies via retail method)
425110	Business to Business Electronic Markets	5085	Industrial Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5085	Industrial Supplies (agents and brokers)
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	5085	Industrial Supplies (sold via retail method)
423850	Service Establishment Equipment and Supplies Merchant Wholesalers	5087	Service Establishment Equipment and Supplies (merchant wholesalers except those selling beauty and barber shop equipment and supplies via retail method)
425110	Business to Business Electronic Markets	5087	Service Establishment Equipment and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5087	Service Establishment Equipment and Supplies (agents and brokers)
446120	Cosmetics, Beauty Supplies, and Perfume Stores	5087	Service Establishment Equipment and Supplies (beauty and barber shop equipment and supplies sold via retail method)
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	5088	Transportation Equipment and Supplies, Except Motor Vehicles (merchant wholesalers)
425110	Business to Business Electronic Markets	5088	Transportation Equipment and Supplies, Except Motor Vehicles (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5088	Transportation Equipment and Supplies, Except Motor Vehicles (agents and brokers)
423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	5091	Sporting and Recreational Goods and Supplies (merchant wholesalers except those selling sporting and recreational goods via retail method)
425110	Business to Business Electronic Markets	5091	Sporting and Recreational Goods and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5091	Sporting and Recreational Goods and Supplies (agents and brokers)
451110	Sporting Goods Stores	5091	Sporting and Recreational Goods and Supplies (sporting and recreational goods sold via retail method)
423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	5092	Toys and Hobby Goods and Supplies (merchant wholesalers except those selling toys and hobby goods and supplies via retail method)
425110	Business to Business Electronic Markets	5092	Toys and Hobby Goods and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5092	Toys and Hobby Goods and Supplies (agents and brokers)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
451120	Hobby, Toy, and Game Stores	5092	Toys and Hobby Goods and Supplies (toys and hobby goods and supplies sold via retail method)
423930	Recyclable Material Merchant Wholesalers	5093	Scrap and Waste Materials (merchant wholesalers)
425110	Business to Business Electronic Markets	5093	Scrap and Waste Materials (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5093	Scrap and Waste Materials (agents and brokers)
423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers	5094	Jewelry, Watches, Precious Stones, and Precious Metals (merchant wholesalers except those selling jewelry and related goods via retail method)
425110	Business to Business Electronic Markets	5094	Jewelry, Watches, Precious Stones, and Precious Metals (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5094	Jewelry, Watches, Precious Stones, and Precious Metals (agents and brokers)
448310	Jewelry Stores	5094	Jewelry, Watches, Precious Stones, and Precious Metals (jewelry and related goods sold via retail method)
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	5099	Durable Goods, NEC (merchant wholesalers except those selling miscellaneous durable goods via retail method)
425110	Business to Business Electronic Markets	5099	Durable Goods, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5099	Durable Goods, NEC (agents and brokers)
444190	Other Building Material Dealers	5099	Durable Goods, NEC (gas lighting fixtures, rough timbers, and other wood or construction materials sold via retail method)
451110	Sporting Goods Stores	5099	Durable Goods, NEC (ammunition and firearms sold via retail method)
451120	Hobby, Toy, and Game Stores	5099	Durable Goods, NEC (coin-operated game machines sold via retail method)
451220	Prerecorded Tape, Compact Disc, and Record Stores	5099	Durable Goods, NEC (prerecorded audio and video tapes and discs sold via retail method)
Wholesale Trade - Nondurable Goods			
424110	Printing and Writing Paper Merchant Wholesalers	5111	Printing and Writing Paper (merchant wholesalers except those selling printing and writing paper via retail method)
425110	Business to Business Electronic Markets	5111	Printing and Writing Paper (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5111	Printing and Writing Paper (agents and brokers)
453210	Office Supplies and Stationary Stores	5111	Printing and Writing Paper (printing and writing paper sold via retail method)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
424120	Stationery and Office Supplies Merchant Wholesalers	5112	Stationery and Office Supplies (merchant wholesalers except those selling stationery and office supplies via retail method)
425110	Business to Business Electronic Markets	5112	Stationery and Office Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5112	Stationery and Office Supplies (agents and brokers)
453210	Office Supplies and Stationery Stores	5112	Stationery and Office Supplies (stationery and office supplies sold via retail method)
424130	Industrial and Personal Service Paper Merchant Wholesalers	5113	Industrial and Personal Service Paper (merchant wholesalers except those selling industrial and personal service paper via retail method)
425110	Business to Business Electronic Markets	5113	Industrial and Personal Service Paper (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5113	Industrial and Personal Service Paper (agents and brokers)
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	5113	Industrial and Personal Service Paper (industrial and personal service paper sold via retail method)
424210	Drugs and Druggists' Sundries Merchant Wholesalers	5122	Drugs, Drug Proprietaries, and Druggists' Sundries (merchant wholesalers except those selling drugs and sundries via retail method)
425110	Business to Business Electronic Markets	5122	Drugs, Drug Proprietaries, and Druggists' Sundries (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5122	Drugs, Drug Proprietaries, and Druggists' Sundries (agents and brokers)
446110	Pharmacies and Drug Stores	5122	Drugs, Drug Proprietaries, and Druggists' Sundries (drugs and sundries sold via retail method)
446120	Cosmetics, Beauty Supplies, and Perfume Stores	5122	Drugs, Drug Proprietaries, and Druggists' Sundries (cosmetics sold via retail method)
446191	Food (Health) Supplement Stores	5122	Drugs, Drug Proprietaries, and Druggists' Sundries (vitamins sold via retail method)
313311	Broadwoven Fabric Finishing Mills	5131	Piece Goods, Notions, and Other Dry Goods (broadwoven converters)
313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills	5131	Piece Goods, Notions, and Other Dry Goods (piece goods converters, except broadwoven)
424310	Piece Goods, Notions, and Other Dry Goods Merchant Wholesalers	5131	Piece Goods, Notions, and Other Dry Goods (merchant wholesalers except broadwoven and piece goods converters and merchant wholesalers selling piece goods, notions and other dry goods via retail method)
425110	Business to Business Electronic Markets	5131	Piece Goods, Notions, and Other Dry Goods (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5131	Piece Goods, Notions, and Other Dry Goods (agents and brokers)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
451130	Sewing, Needlework, and Piece Goods Stores	5131	Piece Goods, Notions, and Other Dry Goods (piece goods, notions, and other dry goods sold via retail method)
423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	5136	Men's and Boys' Clothing and Furnishings (merchant wholesalers of athletic uniforms)
424320	Men's and Boys' Clothing and Furnishings Merchant Wholesalers	5136	Men's and Boys' Clothing and Furnishings (merchant wholesalers except wholesaling athletic uniforms and uniforms and merchant wholesalers selling work clothing via retail method)
425110	Business to Business Electronic Markets	5136	Men's and Boys' Clothing and Furnishings (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5136	Men's and Boys' Clothing and Furnishings (agents and brokers)
448110	Men's Clothing Stores	5136	Men's and Boys' Clothing and Furnishings (men's and boys' apparel, except uniforms and work clothing, sold via retail method)
448190	Other Clothing Stores	5136	Men's and Boys' Clothing and Furnishings (uniforms and work clothing sold via retail method)
423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	5137	Women's, Children's and Infants' Clothing and Accessories (merchant wholesalers of athletic uniforms)
424330	Women's, Children's, and Infants' Clothing and Accessories Merchant Wholesalers	5137	Women's, Children's, and Infants' Clothing and Accessories (merchant wholesalers except wholesaling athletic uniforms and uniforms and merchant wholesalers selling work clothing via retail method)
425110	Business to Business Electronic Markets	5137	Women's, Children's, and Infants' Clothing and Accessories (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5137	Women's, Children's, and Infants' Clothing and Accessories (agents and brokers)
448120	Women's Clothing Stores	5137	Women's, Children's, and Infants' Clothing and Accessories (selling a general line of womens clothing via retail method)
448130	Children's and Infants' Clothing Stores	5137	Women's, Children's and Infants' Clothing and Accessories (selling a general line of children's and infants' clothing via retail method)
448190	Other Clothing Stores	5137	Women's, Children's, and Infants' Clothing and Accessories (uniforms and work clothing sold via retail method)
424340	Footwear Merchant Wholesalers	5139	Footwear (merchant wholesalers except those selling footwear via retail method)
425110	Business to Business Electronic Markets	5139	Footwear (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5139	Footwear (agents and brokers)
448210	Shoe Stores	5139	Footwear (footwear sold via retail method)
424410	General Line Grocery Merchant Wholesalers	5141	Groceries, General Line (merchant wholesalers except those selling general line groceries via retail method)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
425110	Business to Business Electronic Markets	5141	Groceries, General Line (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5141	Groceries, General Line (agents and brokers)
445110	Supermarkets and Other Grocery (except Convenience) Stores	5141	Groceries, General Line (general line groceries sold via retail method)
424420	Packaged Frozen Food Merchant Wholesalers	5142	Packaged Frozen Foods (merchant wholesalers except those selling packaged frozen foods via retail method)
425110	Business to Business Electronic Markets	5142	Packaged Frozen Foods (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5142	Packaged Frozen Foods (agents and brokers)
454390	Other Direct Selling Establishments	5142	Packaged Frozen Foods (frozen food sold via retail method)
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	5143	Dairy Products, Except Dried or Canned (merchant wholesalers except those selling dairy products via retail method)
425110	Business to Business Electronic Markets	5143	Dairy Products, Except Dried or Canned (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5143	Dairy Products, Except Dried or Canned (agents and brokers)
445299	All Other Specialty Food Stores	5143	Dairy Products, Except Dried or Canned (dairy products sold via retail method)
424440	Poultry and Poultry Product Merchant Wholesalers	5144	Poultry and Poultry Products (merchant wholesalers except those selling poultry and poultry products via retail method)
425110	Business to Business Electronic Markets	5144	Poultry and Poultry Products (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5144	Poultry and Poultry Products (agents and brokers)
445210	Meat Markets	5144	Poultry and Poultry Products (poultry and poultry products sold via retail method)
424450	Confectionery Merchant Wholesalers	5145	Confectionery (merchant wholesalers except those selling confectionery via retail method)
425110	Business to Business Electronic Markets	5145	Confectionery (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5145	Confectionery (agents and brokers)
445292	Confectionery and Nut Stores	5145	Confectionery (confectionery sold via retail method)
424460	Fish and Seafood Merchant Wholesalers	5146	Fish and Seafoods (merchant wholesalers except those selling fish and seafoods via retail method)
425110	Business to Business Electronic Markets	5146	Fish and Seafoods (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5146	Fish and Seafoods (agents and brokers)
445220	Fish and Seafood Markets	5146	Fish and Seafoods (fish and seafoods sold via retail method)
311612	Meat Processed from	5147	Meats and Meat Products (boxed beef)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Carcasses		
424470	Meat and Meat Product Merchant Wholesalers	5147	Meats and Meat Products (merchant wholesalers except boxed beef manufacturers and merchant wholesalers selling meats and meat products via retail method)
425110	Business to Business Electronic Markets	5147	Meats and Meat Products (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5147	Meats and Meat Products (agents and brokers)
445210	Meat Markets	5147	Meat and Meat Products (meat and meat products sold via retail method)
424480	Fresh Fruit and Vegetable Merchant Wholesalers	5148	Fresh Fruits and Vegetables (merchant wholesalers except those selling fresh fruits and vegetables via retail method)
425110	Business to Business Electronic Markets	5148	Fresh Fruits and Vegetables (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5148	Fresh Fruits and Vegetables (agents and brokers)
445230	Fruit and Vegetable Markets	5148	Fresh Fruits and Vegetables (fresh fruits and vegetables sold via retail method)
312112	Bottled Water Manufacturing	5149	Groceries and Related Products, NEC (processed bottled water manufacturing)
424490	Other Grocery and Related Products Merchant Wholesalers	5149	Groceries and Related Products, NEC (merchant wholesalers except processed bottled water manufacturing and merchant wholesalers selling groceries and related products via retail method)
425110	Business to Business Electronic Markets	5149	Groceries and Related Products, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5149	Groceries and Related Products, NEC (agents and brokers)
445299	All Other Specialty Food Stores	5149	Groceries and Related Products, NEC (groceries and related products, except pet food, sold via retail method)
453910	Pet and Pet Supplies Stores	5149	Groceries and Related Products, NEC (pet food sold via retail method)
424510	Grain and Field Bean Merchant Wholesalers	5153	Grain and Field Beans (merchant wholesalers except those selling grains and field beans via retail method)
425110	Business to Business Electronic Markets	5153	Grain and Field Beans (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5153	Grain and Field Beans (agents and brokers)
444220	Nurseries, Garden Centers, and Farm Supply Stores	5153	Grain and Field Beans (grain and field beans sold via retail method)
424520	Livestock Merchant Wholesalers	5154	Livestock (merchant wholesalers)
425110	Business to Business Electronic Markets	5154	Livestock (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5154	Livestock (agents and brokers)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
424590	Other Farm Product Raw Material Merchant Wholesalers	5159	Farm-Product Raw Materials, NEC (merchant wholesalers except those selling farm product raw materials, nec via retail method)
425110	Business to Business Electronic Markets	5159	Farm-Product Raw Materials, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5159	Farm-Product Raw Materials, NEC (agents and brokers)
444220	Nurseries, Garden Centers, and Farm Supply Stores	5159	Farm-Product Raw Materials, NEC (farm-product raw materials sold via retail method)
424610	Plastics Materials and Basic Forms and Shapes Merchant Wholesalers	5162	Plastics Materials and Basic Forms and Shapes (merchant wholesalers except those selling plastics via retail method)
425110	Business to Business Electronic Markets	5162	Plastics Materials and Basic Forms and Shapes (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5162	Plastics Materials and Basic Forms and Shapes (agents and brokers)
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)	5162	Plastics Materials and Basic Forms and Shapes (plastics materials, forms, and basic shapes sold via retail method)
424690	Other Chemical and Allied Products Merchant Wholesalers	5169	Chemicals and Allied Products, NEC (merchant wholesalers)
425110	Business to Business Electronic Markets	5169	Chemicals and Allied Products, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5169	Chemicals and Allied Products, NEC (agents and brokers)
424710	Petroleum Bulk Stations and Terminals	5171	Petroleum Bulk Stations and Terminals (except petroleum sold via retail method)
454311	Heating Oil Dealers	5171	Petroleum Bulk Stations and Terminals (heating oil sold to final consumer)
454312	Liquefied Petroleum Gas (Bottled Gas) Dealers	5171	Petroleum Bulk Stations and Terminals (LP gas sold to final consumer)
424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	5172	Petroleum and Petroleum Products Wholesalers, Except Bulk Stations and Terminals (merchant wholesalers)
425110	Business to Business Electronic Markets	5172	Petroleum and Petroleum Products Wholesalers, Except Bulk Stations and Terminals (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5172	Petroleum and Petroleum Products Wholesalers, Except Bulk Stations and Terminals (agents and brokers)
424810	Beer and Ale Merchant Wholesalers	5181	Beer and Ale (merchant wholesalers except those selling beer and ale via retail method)
425110	Business to Business Electronic Markets	5181	Beer and Ale (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5181	Beer and Ale (agents and brokers)
445310	Beer, Wine, and Liquor	5181	Beer and Ale (beer and ale sold via retail method)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Stores		method)
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers	5182	Wine and Distilled Alcoholic Beverages (merchant wholesalers except those selling wine and distilled beverages via retail method)
425110	Business to Business Electronic Markets	5182	Wine and Distilled Alcoholic Beverages (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5182	Wine and Distilled Alcoholic Beverages (agents and brokers)
445310	Beer, Wine, and Liquor Stores	5182	Wine and Distilled Alcoholic Beverages (wine and distilled alcoholic beverages sold via retail method)
424910	Farm Supplies Merchant Wholesalers	5191	Farm Supplies (merchant wholesalers except those selling lawn and garden supplies via retail method)
425110	Business to Business Electronic Markets	5191	Farm Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5191	Farm Supplies (agents and brokers)
444220	Nurseries, Garden Centers, and Farm Supply Stores	5191	Farm Supplies (lawn and garden supplies sold via retail method)
424920	Book, Periodical, and Newspaper Merchant Wholesalers	5192	Books, Periodicals, and Newspapers (merchant wholesalers except those selling publications via retail method)
425110	Business to Business Electronic Markets	5192	Books, Periodicals, and Newspapers (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5192	Books, Periodicals, and Newspapers (agents and brokers)
451211	Book Stores	5192	Books, Periodicals, and Newspapers (sold via retail method)
424930	Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers	5193	Flowers, Nursery Stock, and Florists' Supplies (merchant wholesalers except those selling nursery stock via retail method)
425110	Business to Business Electronic Markets	5193	Flowers, Nursery Stock, and Florists' Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5193	Flowers, Nursery Stock, and Florists' Supplies (agents and brokers)
444220	Nurseries, Garden Centers, and Farm Supply Stores	5193	Flowers, Nursery Stock, and Florists' Supplies (sold via retail method)
424940	Tobacco and Tobacco Product Merchant Wholesalers	5194	Tobacco and Tobacco Products (merchant wholesalers except those selling tobacco and tobacco products via retail method)
425110	Business to Business Electronic Markets	5194	Tobacco and Tobacco Products (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5194	Tobacco and Tobacco Products (agents and brokers)
453991	Tobacco Stores	5194	Tobacco and Tobacco Products (sold via retail method)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
424950	Paint, Varnish, and Supplies Merchant Wholesalers	5198	Paints, Varnishes, and Supplies (merchant wholesalers)
425110	Business to Business Electronic Markets	5198	Paints, Varnishes, and Supplies (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5198	Paints, Varnishes, and Supplies (agents and brokers)
424310	Piece Goods, Notions, and Other Dry Goods Merchant Wholesalers	5199	Nondurable Goods, NEC (merchant wholesalers of yarns, except industrial)
424340	Footwear Merchant Wholesalers	5199	Nondurable Goods, NEC (merchant wholesalers of footwear cutstock)
424610	Plastics Materials and Basic Forms and Shapes Merchant Wholesalers	5199	Nondurable Goods, NEC (merchant wholesalers of plastics foam)
424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers	5199	Nondurable Goods, NEC (merchant wholesalers except advertising specialties goods distributors, wholesaling footwear cutstock, wholesaling plastics foam, wholesaling industrial yarns and merchant wholesalers selling miscellaneous nondurable goods via the retail method)
425110	Business to Business Electronic Markets	5199	Nondurable Goods, NEC (business to business electronic markets)
425120	Wholesale Trade Agents and Brokers	5199	Nondurable Goods, NEC (agents and brokers)
453220	Gift, Novelty, and Souvenir Stores	5199	Nondurable Goods, NEC (curios, statuary, gifts, novelties, and souvenirs sold via retail method)
453910	Pet and Pet Supplies Stores	5199	Nondurable Goods, NEC (pets, pet supplies and tropical fish sold via retail method)
453991	Tobacco Stores	5199	Nondurable Goods, NEC (smokers' supplies sold via retail method)
541890	Other Services Related to Advertising	5199	Nondurable Goods, NEC (advertising specialties goods distributors)
Personal Services			
812320	Drycleaning and Laundry Services (except Coin-Operated)	7211	Power Laundries, Family and Commercial
812320	Drycleaning and Laundry Services (except Coin-Operated)	7212	Garment Pressing, and Agents for Laundries and Drycleaners
812331	Linen Supply	7213	Linen Supply
812310	Coin-Operated Laundries and Drycleaners	7215	Coin-Operated Laundry and Drycleaning
812320	Drycleaning and Laundry Services (except Coin-Operated)	7216	Drycleaning Plants, Except Rug Cleaning
561740	Carpet and Upholstery Cleaning Services	7217	Carpet and Upholstery Cleaning
812332	Industrial Launderers	7218	Industrial Launderers

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
811490	Other Personal and Household Goods Repair and Maintenance	7219	Laundry and Garment Services, NEC (alteration and repair)
812320	Drycleaning and Laundry Services (except Coin-Operated)	7219	Laundry and Garment Services, NEC (except diaper service and clothing alteration and repair)
812331	Linen Supply	7219	Laundry and Garment Services, NEC (diaper service)
541921	Photography Studios, Portrait	7221	Photographic Studios, Portrait
611511	Cosmetology and Barber Schools	7231	Beauty Shops (beauty and cosmetology schools)
812112	Beauty Salons	7231	Beauty Shops (except beauty and cosmetology schools and manicure and pedicure salons)
812113	Nail Salons	7231	Beauty Shops (manicure and pedicure salons)
611511	Cosmetology and Barber Schools	7241	Barber Shops (barber colleges)
812111	Barber Shops	7241	Barber Shops (except barber colleges)
811430	Footwear and Leather Goods Repair	7251	Shoe Repair Shops and Shoeshine Parlors (shoe repair shops)
812320	Drycleaning and Laundry Services (except Coin-Operated)	7251	Shoe Repair Shops and Shoeshine Parlors (hatcleaning and blocking shops)
812990	All Other Personal Services	7251	Shoe Repair Shops and Shoeshine Parlors (shoeshine parlors)
812210	Funeral Homes and Funeral Services	7261	Funeral Services and Crematories (funeral homes and services)
812220	Cemeteries and Crematories	7261	Funeral Services and Crematories (crematories)
541213	Tax Preparation Services	7291	Tax Return Preparation Services
532220	Formal Wear and Costume Rental	7299	Miscellaneous Personal Services, NEC (formal wear and costume rental)
541990	All Other Professional, Scientific, and Technical Services	7299	Miscellaneous Personal Services, NEC (consumer credit and debt counseling services)
561310	Employment Placement Agencies	7299	Miscellaneous Personal Services, NEC (babysitting bureaus)
561990	All Other Support Services	7299	Miscellaneous Personal Services, NEC (consumer bartering services)
812191	Diet and Weight Reducing Centers	7299	Miscellaneous Personal Services, NEC (diet and weight reducing services)
812199	Other Personal Care Services	7299	Miscellaneous Personal Services, NEC (personal care services)
812930	Parking Lots and Garages	7299	Miscellaneous Personal Services, NEC (valet parking services)
812990	All Other Personal Services	7299	Miscellaneous Personal Services, NEC (except diet and weight reducing services, personal care services, valet parking services, babysitting bureaus, debt and credit counseling, consumer bartering services, and formal wear and costume

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Business Services

541810	Advertising Agencies	7311	Advertising Agencies
541850	Display Advertising	7312	Outdoor Advertising Services
541840	Media Representatives	7313	Radio, Television, and Publishers' Advertising Representatives
481219	Other Nonscheduled Air Transportation	7319	Advertising, NEC (using general purpose aircraft for aerial advertising and a variety of other services)
541830	Media Buying Agencies	7319	Advertising, NEC (media buying services)
541850	Display Advertising	7319	Advertising, NEC (display advertising, aerial advertising using special purpose aircraft, such as blimps)
541870	Advertising Material Distribution Services	7319	Advertising, NEC (advertising materials distributor)
541890	Other Services Related to Advertising	7319	Advertising, NEC (except media buying, display advertising, except outdoor; and advertising material distributors)
561440	Collection Agencies	7322	Adjustment and Collection Services
561450	Credit Bureaus	7323	Credit Reporting Services
511140	Directory and Mailing List Publishers	7331	Direct Mail Advertising Services (mailing list compilers)
541860	Direct Mail Advertising	7331	Direct Mail Advertising Services (except mailing list compilers)
323114	Quick Printing	7334	Photocopying and Duplicating Services (quick printing)
561439	Other Business Service Centers (including Copy Shops)	7334	Photocopying and Duplicating Services (except quick printing)
481219	Other Nonscheduled Air Transportation	7335	Commercial Photography (using general purpose aircraft for aerial photography and a variety of other services)
541922	Commercial Photography	7335	Commercial Photography (except using general purpose aircraft for aerial photography and a variety of other services)
541430	Graphic Design Services	7336	Commercial Art and Graphic Design
561410	Document Preparation Services	7338	Secretarial and Court Reporting (secretarial services)
561492	Court Reporting and Stenotype Services	7338	Secretarial and Court Reporting (court reporting services)
561710	Exterminating and Pest Control Services	7342	Disinfecting and Pest Control Services (exterminating and pest control)
561720	Janitorial Services	7342	Disinfecting and Pest Control Services (except exterminating and pest control)
561720	Janitorial Services	7349	Building Cleaning and Maintenance Services, NEC (janitorial services)
561790	Other Services to Buildings and Dwellings	7349	Building Cleaning and Maintenance Services, NEC (services to buildings and

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
			dwellings, except janitorial services)
532291	Home Health Equipment Rental	7352	Medical Equipment Rental and Leasing (home health furniture and equipment rental and leasing)
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	7352	Medical Equipment Rental and Leasing (medical machinery and equipment, except home health furniture and equipment, rental and leasing)
238910	Site Preparation Contractors	7353	Heavy Construction Equipment Rental and Leasing (rental of construction equipment [except cranes] with operator)
238990	All Other Specialty Trade Contractors	7353	Heavy Construction Equipment Rental and Leasing (crane rental with operator)
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	7353	Heavy Construction Equipment Rental and Leasing (heavy construction equipment rental without operators)
532210	Consumer Electronics and Appliances Rental	7359	Equipment Rental and Leasing, NEC (appliances; TVs, VCRs, and other consumer electronic equipment rental)
532299	All Other Consumer Goods Rental	7359	Equipment Rental and Leasing, NEC (except aircraft; industrial truck and equipment; TV, VCR, and other consumer electronic equipment; appliances; general rental centers; portable toilets; office machines; oil field and oil well drilling equipment; and home and garden equipment rental and leasing)
532310	General Rental Centers	7359	Equipment Rental and Leasing, NEC (general rental centers and home and garden equipment rental centers)
532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing	7359	Equipment Rental and Leasing, NEC (aircraft rental and leasing)
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	7359	Equipment Rental and Leasing, NEC (oil field and well drilling equipment)
532420	Office Machinery and Equipment Rental and Leasing	7359	Equipment Rental and Leasing, NEC (office machine rental and leasing)
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	7359	Equipment Rental and Leasing, NEC (industrial truck and equipment rental and leasing)
562991	Septic Tank and Related Services	7359	Equipment Rental and Leasing, NEC (portable toilet rental)
541612	Human Resources and Executive Search Consulting Services	7361	Employment Agencies (executive placement services)
561310	Employment Placement Agencies	7361	Employment Agencies (except executive placement services)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
561320	Temporary Help Services	7363	Help Supply Services (temporary help services)
561330	Professional Employer Organizations	7363	Help Supply Services (employee leasing services, professional employer organizations)
541511	Custom Computer Programming Services	7371	Computer Programming Services
334611	Software Reproducing	7372	Prepackaged Software (mass reproduction of software)
511210	Software Publishers	7372	Prepackaged Software (software publishing)
541512	Computer Systems Design Services	7373	Computer Integrated Systems Design
518210	Data Processing, Hosting, and Related Services	7374	Computer Processing and Data Preparation and Processing Services
518111	Internet Service Providers	7375	Information Retrieval Services (Internet service providers and Internet access providers)
541513	Computer Facilities Management Services	7376	Computer Facilities Management Services
532420	Office Machinery and Equipment Rental and Leasing	7377	Computer Rental and Leasing
443120	Computer and Software Stores	7378	Computer Maintenance and Repair (sales locations providing supporting repair services as major source of receipts)
811212	Computer and Office Machine Repair and Maintenance	7378	Computer Maintenance and Repair (except sales locations providing supporting repair services as major source of revenue)
518210	Data Processing, Hosting, and Related Services	7379	Computer Related Services, NEC (disk conversion services)
541512	Computer Systems Design Services	7379	Computer Related Services, NEC (computer systems consultants)
541519	Other Computer Related Services	7379	Computer Related Services, NEC (except computer systems consultants and disk conversion services)
561611	Investigation Services	7381	Detective, Guard, and Armored Car Services (detective services)
561612	Security Guards and Patrol Services	7381	Detective, Guard, and Armored Car Services (guard services)
561613	Armored Car Services	7381	Detective, Guard, and Armored Car Services (armored car services)
561621	Security Systems Services (except Locksmiths)	7382	Security Systems Services
519110	News Syndicates	7383	News Syndicates (except independent news correspondents)
711510	Independent Artists, Writers, and Performers	7383	News Syndicates (independent news correspondents)
812921	Photofinishing Laboratories (except One-Hour)	7384	Photofinishing Laboratories (except one-hour)
812922	One-Hour Photofinishing	7384	Photofinishing Laboratories (one-hour)
312229	Other Tobacco Product Manufacturing	7389	Business Services, NEC (tobacco sheeting service)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
313311	Broadwoven Fabric Finishing Mills	7389	Business Services, NEC (sponging, shrinking, etc. fabric for tailors and dress makers, batik work)
314999	All Other Miscellaneous Textile Product Mills	7389	Business Services, NEC (embroidery of advertising on shirts and rug binding for the trade)
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing	7389	Business Services, NEC (aerosol packaging, solvent recovery service-contract)
425120	Wholesale Trade Agents and Brokers	7389	Business Services, NEC (yacht brokers)
488490	Other Support Activities for Road Transportation	7389	Business Services, NEC (driving services, e.g., auto or truck delivery and pilot car services)
491110	Postal Service	7389	Business Services, NEC (post office contract stations)
512240	Sound Recording Studios	7389	Business Services, NEC (recording studios)
512290	Other Sound Recording Industries	7389	Business Services, NEC (audio taping services)
518210	Data Processing, Hosting, and Related Services	7389	Business Services, NEC (microfilm services)
519190	All Other Information Services	7389	Business Services, NEC (press clipping services and stock photo agencies)
522320	Financial Transactions Processing, Reserve, and Clearinghouse Activities	7389	Business Services, NEC (credit card and check validation service)
541199	All Other Legal Services	7389	Business Services, NEC (process services, patent agents, notaries public, paralegal services)
541340	Drafting Services	7389	Business Services, NEC (drafting service)
541350	Building Inspection Services	7389	Business Services, NEC (home and building inspection services)
541370	Surveying and Mapping (except Geophysical) Services	7389	Business Services, NEC (map making services)
541410	Interior Design Services	7389	Business Services, NEC (interior design)
541420	Industrial Design Services	7389	Business Services, NEC (industrial design)
541490	Other Specialized Design Services	7389	Business Services, NEC (fashion, furniture, and other design services)
541870	Advertising Material Distribution Services	7389	Business Services, NEC (distribution of telephone directories on a fee or contract basis)
541890	Other Services Related to Advertising	7389	Business Services, NEC (sign painting and lettering, showcard painting, mannequin decorating service and other advertising related business services)
541930	Translation and Interpretation Services	7389	Business Services, NEC (translation and interpretation services)
541990	All Other Professional, Scientific, and Technical Services	7389	Business Services (appraisers except insurance and real estate, outplacement services, and miscellaneous professional, scientific, and technical services)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
561410	Document Preparation Services	7389	Business Services, NEC (radio transcription services)
561421	Telephone Answering Services	7389	Business Services, NEC (telephone answering services)
561422	Telemarketing Bureaus	7389	Business Services, NEC (telemarketing bureaus and telephone soliciting)
561431	Private Mail Centers	7389	Business Services, NEC (private mail centers and mailbox rental)
561439	Other Business Service Centers (including Copy Shops)	7389	Business Services, NEC (other business service centers, except private mail centers and mailbox rental)
561440	Collection Agencies	7389	Business Services, NEC (tax collection for federal, state, or local agencies)
561491	Repossession Services	7389	Business Services, NEC (recovery and repossession services)
561499	All Other Business Support Services	7389	Business Services, NEC (business support services except telephone answering, telemarketing bureaus, private mail centers and repossession services)
561591	Convention and Visitors Bureaus	7389	Business Services, NEC (convention and visitors bureaus, tourist information bureaus)
561599	All Other Travel Arrangement and Reservation Services	7389	Business Services, NEC (reservation systems for hotels, restaurants, and time-share condominium exchanges)
561790	Other Services to Buildings and Dwellings	7389	Business Services, NEC (swimming pool cleaning and maintenance)
561910	Packaging and Labeling Services	7389	Business Services, NEC (packaging and labeling services)
561920	Convention and Trade Show Organizers	7389	Business Services, NEC (convention and trade show services)
561990	All Other Support Services	7389	Business Services, NEC (other support services except packaging and labeling, convention and trade shows services, convention and visitor bureaus, tourist information bureaus)
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	7389	Business Services, NEC (promoters of air shows, heritage festivals, and ethnic festivals with facilities)
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	7389	Business Services, NEC (promoters of air shows, heritage festivals, and ethnic festivals without facilities)
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	7389	Business Services, NEC (agents and brokers for authors and artists and speaker bureaus)
812320	Drycleaning and Laundry Services (except Coin-Operated)	7389	Business Services, NEC (apparel pressing service for the trade)
812990	All Other Personal Services	7389	Miscellaneous Business Services (bail bonding)

Auto Repair,

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
	Services, and Parking		
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	7513	Truck Rental and Leasing Without Drivers
532111	Passenger Car Rental	7514	Passenger Car Rental
532112	Passenger Car Leasing	7515	Passenger Car Leasing
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	7519	Utility Trailers and Recreational Vehicle Rental
812930	Parking Lots and Garages	7521	Automobile Parking
811121	Automotive Body, Paint, and Interior Repair and Maintenance	7532	Top, Body, and Upholstery Repair Shops and Paint Shops
811112	Automotive Exhaust System Repair	7533	Automotive Exhaust System Repair Shops
326212	Tire Retreading	7534	Tire Retreading and Repair Shops (rebuilding tires and retreaded tire manufacturing)
811198	All Other Automotive Repair and Maintenance	7534	Tire Retreading and Repair Shops (tire repair)
811122	Automotive Glass Replacement Shops	7536	Automotive Glass Replacement Shops
811113	Automotive Transmission Repair	7537	Automotive Transmission Repair Shops
811111	General Automotive Repair	7538	General Automotive Repair Shops
811118	Other Automotive Mechanical and Electrical Repair and Maintenance	7539	Automotive Repair Shops, NEC (except automotive air-conditioning repair)
811198	All Other Automotive Repair and Maintenance	7539	Automotive Repair Shops, NEC (automotive air-conditioning repair)
811192	Car Washes	7542	Carwashes
488410	Motor Vehicle Towing	7549	Automotive Services, Except Repair and Carwashes (towing)
811122	Automotive Glass Replacement Shops	7549	Automotive Services, Except Repair and Carwashes (automotive window tinting)
811191	Automotive Oil Change and Lubrication Shops	7549	Automotive Services, Except Repair and Carwashes (lubricating service, automotive)
811198	All Other Automotive Repair and Maintenance	7549	Automotive Services, Except Repair and Carwashes (except automotive lubricating, automotive window tinting, and towing services)
	Miscellaneous Repair Services		
238290	Other Building Equipment Contractors	7622	Radio and Television Repair Shops (household antenna installation and household-type satellite dish installation)
443112	Radio, Television, and Other Electronics Stores	7622	Radio and Television Repair Shops (new retail sales combined with repair-repair services as major source of receipts)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
811211	Consumer Electronics Repair and Maintenance	7622	Radio and Television Repair Shops (stereo, TV, VCR, and radio repair)
811213	Communication Equipment Repair and Maintenance	7622	Radio and Television Repair Shops (telecommunication equipment repair)
443111	Household Appliance Stores	7623	Refrigeration and Air-Conditioning Services and Repair Shops (new retail sales combined with repair-repair services as major source of receipts)
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	7623	Refrigeration and Air-Conditioning Services and Repair Shops (commercial refrigerator equipment repair)
811412	Appliance Repair and Maintenance	7623	Refrigeration and Air-Conditioning Service and Repair Shops (except commercial refrigeration equipment repair, and sales locations with repair as major source of receipts)
443111	Household Appliance Stores	7629	Electrical and Electronic Repair Shops, NEC (new retail sales combined with repair-repair services as major source of receipts)
811211	Consumer Electronics Repair and Maintenance	7629	Electrical and Electronic Repair Shops, NEC (other consumer electronic equipment, except business and office machines, telephones, and appliances-repair and maintenance)
811212	Computer and Office Machine Repair and Maintenance	7629	Electrical and Electronic Repair Shops, NEC (business and office machine repair, electrical)
811213	Communication Equipment Repair and Maintenance	7629	Electrical and Electronic Repair Shops, NEC (telephone set repair)
811219	Other Electronic and Precision Equipment Repair and Maintenance	7629	Electrical and Electronic Repair Shops, NEC (electrical measuring instrument repair and calibration, medical electrical equipment repair)
811412	Appliance Repair and Maintenance	7629	Electrical and Electronic Repair Shops, NEC (electrical appliance repair, washing machine repair, electric razor repair)
448310	Jewelry Stores	7631	Watch, Clock, and Jewelry Repair (new retail sales combined with repair-repair services as major source of receipts)
811490	Other Personal and Household Goods Repair and Maintenance	7631	Watch, Clock, and Jewelry Repair (except new retail sales combined with repair services)
811420	Reupholstery and Furniture Repair	7641	Reupholstery and Furniture Repair
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	7692	Welding Repair
335312	Motor and Generator Manufacturing	7694	Armature Rewinding Shops (remanufacturing)

NAICS 2002	NAICS TEXT	SIC	SIC TEXT
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	7694	Armature Rewinding Shops (repair)
115210	Support Activities for Animal Production	7699	Repair Shops and Related Services, NEC (farriers)
238220	Plumbing, Heating, and Air-Conditioning Contractors	7699	Repair Shops and Related Services, NEC (boiler cleaning, chipping, and scaling)
442299	All Other Home Furnishings Stores	7699	Repair Shops and Related Services, NEC (custom picture framing shops)
444130	Hardware Stores	7699	Repair Shops and Related Services, NEC (new power tool retail sales combined with repair-repair services as major source of receipts)
444210	Outdoor Power Equipment Stores	7699	Repair Shops and Related Services, NEC (new lawn and garden equipment retail sales combined with repair-repair services as major source of receipts)
451110	Sporting Goods Stores	7699	Repair Shops and Related Services, NEC (new bicycle retail sales combined with repair-repair services for bicycles as major source of receipts)
488390	Other Support Activities for Water Transportation	7699	Repair Shops and Related Services, NEC (ship scaling)
561622	Locksmiths	7699	Repair Shops and Related Services, NEC (locksmith shops)
561790	Other Services to Buildings and Dwellings	7699	Repair Shops and Related Services, NEC (furnace, duct, gutter, and drain cleaning services)
562991	Septic Tank and Related Services	7699	Repair Shops and Related Services, NEC (cesspool and septic tank cleaning)
562998	All Other Miscellaneous Waste Management Services	7699	Repair Shops and Related Services, NEC (sewer cleaning and rodding)
711510	Independent Artists, Writers, and Performers	7699	Repair Shops and Related Services, NEC (taxidermists and antique repair and restoration, except antique car restoration)
811211	Consumer Electronics Repair and Maintenance	7699	Repair Shops and Related Services, NEC (camera repair)
811212	Computer and Office Machine Repair and Maintenance	7699	Repair Shops and Related Services, NEC (typewriter repair, refilling or recycling ink jet cartridges)
811219	Other Electronic and Precision Equipment Repair and Maintenance	7699	Repair Shops and Related Services, NEC (dental instrument repair, laboratory instrument repair, medical equipment and other electronic and precision equipment repair, except typewriters)
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	7699	Repair Shops and Related Services, NEC (other non-automotive transportation equipment and industrial machines and equipment, and sharpening commercial blades)

NAICS 2002 NAICS TEXT		SIC	SIC TEXT
811411	Home and Garden Equipment Repair and Maintenance	7699	Repair Shops and Related Services, NEC (lawnmower repair shops, sharpening and repairing knives, saws and tools)
811412	Appliance Repair and Maintenance	7699	Repair Shops and Related Services, NEC (gas appliance repair service, sewing machine repair, stove repair shops, and other non-electrical appliance)
811430	Footwear and Leather Goods Repair	7699	Repair Shops and Related Services, NEC (leather goods repair shops, luggage repair shops, pocketbook repair shops)
811490	Other Personal and Household Goods Repair and Maintenance	7699	Repair Shops and Related Services, NEC (except industrial, electronic, home and garden, appliance, and leather goods)

Appendix B: What Toxic Substances Are Subject To TURA Reporting?

All of the substances listed under Section 313 of EPCRA, and all of the substances that are on the federal Superfund (CERCLA) list of chemicals are reportable under TURA, except for those chemicals that have been delisted by the Administrative Council on Toxics Use Reduction. In addition, the TURA Council has added some chemicals to the TURA list that are not on the EPCRA or CERCLA list (e.g., crystalline silica).

The list of TURA chemicals subject to reporting for reports due July 1, 2011 is posted as an Excel spreadsheet and pdf file with this document on the MassDEP website. These chemicals include all reportable chemicals and chemical categories listed by CAS number and chemical name.

NOTE: N-propyl bromide (CAS 106-94-5) has been added to the list of TURA-reportable chemicals effective reporting year 2010, for reports due July 1, 2011.

The following chemicals have been delisted from TURA (but in certain cases are reportable under EPCRA):

Reporting Year/Chemical Delisted	Reason/Note
1994	
Barium Sulfate	EPCRA delisting and not CERCLA reportable
All copper phthalocyanine compounds that are substituted with only hydrogen and/or chlorine and/or bromine (delisted from the copper compounds category)	EPCRA delisting and not CERCLA reportable
High molecular weight glycol ethers	EPCRA delisting and not CERCLA reportable
1995	
Certain Metal Alloys (refer to Appendix F)	TURA Administrative Council delisting
Chromium (III) Oxide from chromium compounds category	TURA Administrative Council delisting
Ammonium Sulfate Solution (CAS#7783-20-2)	EPCRA delisting and not CERCLA reportable
Ammonium Nitrate Solution (CAS#6484-52-2)	EPCRA delisting and not CERCLA reportable
1996	
Hydroquinone (except for the manufacture of the chemical)	TURA Administrative Council delisting
Acetic Acid at concentrations of 12% or less	TURA Administrative Council delisting
Di-(2-ethylhexyl)adipate (DEHA) (CAS#103-23-1)	EPCRA delisting and not CERCLA reportable

1997	
Zinc Oxide from zinc compounds category	TURA Administrative Council delisting
Radionuclides	TURA Administrative Council delisting
2-bromo-2-nitropropane (Bronopol) (CAS#52-51-7)	EPCRA delisting and not CERCLA reportable
2, 6 dimethylphenol (CAS# 576-26-1)	EPCRA delisting and not CERCLA reportable
Carbamate waste category	CERCLA delisting and not EPCRA reportable
1998	
Silver-Copper Alloy	TURA Administrative Council delisting
1999	
Pure Copper and Pure Silver	TURA Administrative Council delisting
Caprolactum	CERCLA delisting and not EPCRA reportable
2000	
Zinc Stearate from zinc compounds category	TURA Administrative Council delisting
2010	
Adipic Acid	TURA Administrative Council delisting
Ammonium Bicarbonate	TURA Administrative Council delisting
Ammonium Chloride	TURA Administrative Council delisting
Ammonium Sulfamate	TURA Administrative Council delisting
Amyl Acetate	TURA Administrative Council delisting
Fumaric Acid	TURA Administrative Council delisting
Maleic Acid	TURA Administrative Council delisting

1. Difference Between TRI and TURA Reporting of Hydrochloric Acid and Sulfuric Acid

- A qualifier was added to **hydrochloric acid (CAS No. 7647-01-0)** on the EPCRA list that relieves TRI reporting for non-aerosol forms, effective reporting year 1996. A similar qualifier was added for **sulfuric acid (CAS No. 7664-93-9)** effective reporting year 1995. TRI reporting only is required for acid aerosols including mists, gas, vapors, fog, and other airborne forms of any particle size. **This qualifier is only applicable to EPCRA Form R submissions.**

- ❑ Since this chemical also is on the CERCLA list, **all forms (both aerosol and non-aerosol) are reportable under TURA**. A “State-Only” Form R must be submitted with the Form S for these acids, in addition to the Form R submitted to EPA for only acid aerosols.
- ❑ For additional assistance on calculating and reporting sulfuric acid, please refer to the following EPA document: Sulfuric Acid: EPA-745-R-97-007 (11/97) Guidance for Reporting Sulfuric Acid (acid aerosols including mists, vapors, gas, fog and other forms of any particle size). This document is available from the EPA EPCRA Hotline 1-800-535-0202 and can be downloaded off the EPA TRI home page at www.epa.gov/tri/guide_docs/1998/sulfuric.pdf.

2. Rules For Reporting Certain Chemical Categories

Rules for Reporting Water Dissociable Nitrate Compounds Category

The 1996 EPA TRI guidance document, "List of Toxic Chemicals within the Water Dissociable Nitrate Compounds Category and Guidance for Reporting" (EPA 745-R-96-004), provides a detailed description of how to report this chemical category. The following general overview is from the guidance document:

"Chemicals within the nitrate compounds category are only reportable when in aqueous solution. All water dissociable nitrate compounds are included in the nitrate compounds category, including ammonium nitrate. Specifically listed section 313 chemicals *are not* included in threshold determinations for chemical categories such as the water dissociable nitrate compounds category. Specifically listed toxic chemicals are subject to their own individual threshold determinations. As of December 1, 1994, ammonium nitrate (solution) is not an individually listed chemical on the EPCRA section 313 list. However, ammonium nitrate is still subject to reporting under the nitrate compounds category. In addition, the aqueous ammonia from the dissociation of ammonium nitrate when in aqueous solution is subject to reporting under the ammonia listing."

The following is an example from the TRI guidance document:

✓ Example

In a calendar year, a facility manufactures as byproducts, 20,000 pounds of sodium nitrate and 10,000 pounds of calcium nitrate, both in aqueous solutions, and releases these solutions to wastewater streams. The total quantity of nitrate compounds manufactured by the facility is the sum of the two chemicals, or 30,000 pounds, which exceeds the manufacturing threshold quantity of 25,000 pounds. The facility therefore is required to report for the nitrate compounds category.

There are three diisocyanates that are reported individually under EPCRA, and not as the diisocyanate chemical category:

- Toluene-2,4-diisocyanate (584-84-9)
- Toluene-2,6-diisocyanate (91-08-7)
- Toluene diisocyanate (mixed isomers) (26471-62-5)

Rules for Reporting Glycol Ethers

There are separate categories for glycol ethers defined under EPCRA and CERCLA.

(Please refer to the TRI guidance document, "List of Toxic Chemicals within the Glycol Ethers Category and Guidance for Reporting," EPA 745-R-95-006.)



Reporting Guidance

EPCRA: Glycol Ethers are reportable as the glycol ethers category, N230. The specific chemical formula which defines the EPCRA glycol ethers category is as follows:



where

- | | | |
|----|---|--|
| n | = | 1, 2, or 3; |
| R | = | Alkyl C7 or less, or phenyl or alkyl substituted phenyl; |
| R' | = | H or alkyl C7 or less, or |

OR' consisting of a carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.



Reporting Guidance

CERCLA: Glycol Ethers are reportable under CERLA as defined by the following chemical formula:

Includes mono and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol $R-(OCH_2CH_2)_n-OR'$ where:

- n= 1, 2, or 3.
- R= alkyl or aryl groups.
- R'= R, H, or groups which, when removed, yield glycol ethers with the structure: $R-(OCH_2CH_2)_n-OH$. Polymers are excluded from the glycol category.

Any glycol ether that meets the CERCLA definition only is reportable if it is specifically named on the TURA list. If a glycol ether meets both the EPCRA and the CERCLA definitions, it is reportable under the EPCRA category (N230).

3. Rules For Reporting Specifically Listed Chemicals vs. Chemical Categories

Rules for Reporting the Use of Ammonia and Ammonium Hydroxide under TURA

To further clarify the reporting of ammonia and ammonium hydroxide under TURA, MassDEP recommends that reporting be consistent with EPCRA. Thus, there will not be a State-only Form R/A required for ammonium hydroxide, and TURA filers should not file a Form S for ammonium hydroxide (CAS# 1336-21-6). Only one fee will be required to the state for the reporting of ammonia as ammonium hydroxide. MassDEP interprets ammonium hydroxide to be equivalent to aqueous ammonia (as does EPCRA), and 10% of aqueous ammonia (CAS# 7664-41-7) is reportable under TURA, effective reporting year 2000. Please refer to the EPCRA Section 313 Guidance for Reporting Aqueous Ammonia, Revised December 2000, EPA 745-R-00-005.

The following is quoted from #451, EPCRA Section 313 Questions and Answers, December 1998, EPA 745-B-98-004:

“ . . . The chemical ammonium hydroxide (NH₄OH) is a misnomer. It is a common name used to describe a solution of ammonia in water (i.e., aqueous ammonia), typically a concentrated solution of 28 to 30 percent ammonia. EPA has consistently responded to questions regarding the reportability of these purported ammonium hydroxide solutions under the EPCRA Section 313 ammonia listing by stating that these are 28 to 30 percent solutions of ammonia in water and that the solutions are reportable under EPCRA Section 313 ammonia listing. For a more detailed discussion, see page 34175 of the Federal Register final rule of June 30, 1995 (60 FR 34172).

Facilities should use the percent total ammonia specified on the label of ammonium hydroxide solutions they purchase to determine the total ammonia content in these solutions. Ammonium hydroxide has the chemical formula NH₄OH; however, as mentioned above, strong evidence indicates that the species NH₄OH does not exist. Bottles of concentrated aqueous ammonia purchased from chemical supply companies are almost always labeled ammonium hydroxide. These solutions primarily consist of molecules of NH₃ dissolved in water (along with small amounts of ionized ammonia) . . . ”

Please note that different chemical suppliers will reference the % of ammonia in different ways. Therefore, it is recommended that facilities contact their chemical suppliers to specify the amount of ammonia per gallon. This question could be specified in “percent by weight per gallon” or in “number of pounds per gallon” of solution, for example.

✓ Examples

Example 1:

Facility otherwise uses 1,000,000 pounds of 30% solution by weight of ammonium hydroxide (30% ammonia by weight).

$1,000,000 \text{ pounds} \times 0.30 = 300,000 \text{ pounds of ammonia}$

Only 10% of ammonia is reportable on Form R per EPA Guidance for Reporting Aqueous Ammonia

$300,000 \times 0.10 = 30,000 \text{ pounds of ammonia}$

This facility would complete one Form S and one Form R for 30,000 pounds of reportable ammonia (see EPCRA Guidance for Reporting Aqueous Ammonia).

✓ Examples

Example 2:

54,231 gallons of aqueous ammonia (19.0%)

54,231 gallons x 8.34 pounds/gallon x 0.935 specific gravity

= 422,888 pounds aqueous ammonia x 19.0%

80,349 pounds ammonia x 10% reportable ammonia = 8,035 pounds ammonia

This facility does not meet TURA or TRI reporting thresholds.

The table below summarizes how to report chemicals that are specifically listed and/or listed as chemical categories. Descriptions of specific reporting requirements for each row follow the table.

Row No.	EPCRA Specific Chemical	EPCRA Category	CERCLA Specific Chemical	CERCLA Category	Report as:
1	yes	yes			EPCRA Specific Chemical
2	yes			yes	EPCRA Specific Chemical
3			yes	yes	CERCLA Specific Chemical
4		yes			EPCRA Category
5		yes		yes	EPCRA Category
6				yes	Do Not Report *

Rows 1 & 2:

If a specific chemical is named on EPCRA and it also is reportable under either an EPCRA or CERCLA listed category, it should be reported **only as a specific EPCRA chemical, not under the category.**

✓ Example

Hydrogen Cyanide: EPCRA category (Cyanide Compounds), EPCRA specifically listed
Report as: EPCRA specific chemical (Hydrogen Cyanide)

1,2,4 Trichlorobenzene: EPCRA specifically listed, CERCLA category (Chlorinated Benzenes)

Report as: EPCRA specific chemical (1,2,4 Trichlorobenzene)

Row 3:

When a specifically listed CERCLA chemical falls within a CERCLA listed category, it should be reported **only as the specific CERCLA chemical.**

✓ Example

- Benzenesulfonyl Chloride: CERCLA specifically listed, CERCLA category (Chlorinated Benzenes)

Report as: CERCLA specific chemical (Benzenesulfonyl Chloride)

Row 4:

Chemicals falling under an EPCRA chemical category or categories which are not specifically listed under EPCRA or CERCLA should be reported under the EPCRA chemical category or categories.

✓ Example: Lead Chromate, Reporting Two Competing Compound Classes

If you are reporting lead chromate you need to report under the lead compounds and chromium compounds categories

- **Report the SAME weight for Lead Compounds and Chromium Compounds use (total weight of the compound) on EACH Form S.**
- For Byproduct tracking, report ONLY the weight of the reportable constituent for each category.
- In Section 2 of each Form S, enter the weight of the chemical in d.
- Even though you will file 2 separate Form Ss for Lead Compounds and Chromium Compounds, you will **pay only ONE TURA fee for both chemicals.** (Example Form Ss are shown on the next page.)

Chemicals falling under an EPCRA chemical category and a CERCLA chemical category which are not specifically listed under EPCRA or CERCLA should be reported under the EPCRA chemical category.

Chemicals that only are listed as a CERCLA category are not reportable.

CERCLA Category only: phthalate esters, polynuclear aromatic hydrocarbons, polycyclic organic matter, glycol ethers, chlorinated phenols, etc. should NOT be reported unless they are specifically named.

Section 1: Facility-Wide Use of Listed Chemical

b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. NOTE: "Generated as byproduct" (item f.) means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

h. ☐ Check here to input Form R or A information to MassDEP

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c, d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

d. Chemical is a compound

☐ Yes* ☐ No *If your answer is Yes, you may explain in Section 4.I. on Page 3.

Section 1: Facility-Wide Use of Listed Chemical

1012

Chromium Compounds

a. CAS #

b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. **NOTE:** 'Generated as byproduct' (item f.) generally means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

c. Manufactured

d. Processed

350

e. Otherwise used

f. Generated as Byproduct

33,000

g. Shipped in or as product

h. ☐ Check here to input Form R or A information i. _____
to MassDEP Production Ratio

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c, d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

a. Chemical was recycled on site

b. Chemical was consumed or transformed

See above

c. Chemical was held in inventory

d. Chemical is a compound

e. Other (explain below)

f. Did anything non-routine occur at your facility during the reporting year which affected the data reported?
☐ Yes* ☐ No *If your answer is Yes, you may explain in Section 4.I. on Page 3.

Guidance on Certain TURA Reportable Chemical Categories

TURA requires reporting on many chemical categories. The individual chemicals included in each chemical category should always be reported in their parent chemical category (e.g., antimony compounds), and not as individual chemicals. Below is guidance on which individual chemicals are included in some of the reportable chemical categories. Please note that this is not an exhaustive list of reportable chemical categories or of individual chemicals within the chemical categories listed below.

Chemical Category	CAS No.	Chemical Name
1000 Antimony Compounds Includes any unique chemical substance that contains antimony as part of the chemical's infrastructure. Includes, but is not limited to:	1309-64-4	Antimony Trioxide
	7647-18-9	Antimony Pentachloride
	7783-56-4	Antimony Trifluoride
	7789-61-9	Antimony Tribromide
	10025-91-9	Antimony Trichloride
	28300-74-5	Antimony Potassium Tartrate
1001 Arsenic Compounds Includes any unique chemical substance that contains arsenic as part of the chemical's infrastructure. Includes, but is not limited to:	692-42-2	Diethylarsine
	696-28-6	Dichlorophenylarsine
	1303-28-2	Arsenic Pentoxide
	1303-32-8	Arsenic Disulfide
	1303-33-9	Arsenic Trisulfide
	1327-52-2	Arsenic Acid
	1327-53-3	Arsenic Trioxide
	7631-89-2	Sodium Arsenate
	7645-25-2	Lead Arsenate
	7778-39-4	Arsenic Acid
	7778-44-1	Calcium Arsenate
	7784-34-1	Arsenous Trichloride
	7784-40-9	Lead Arsenate
	7784-41-0	Potassium Arsenate
	7784-46-5	Sodium Arsenite
	10102-48-4	Lead Arsenate
	10124-50-2	Potassium Arsenate
	52740-16-6	Calcium Arsenate
1002 Barium Compounds Includes any unique chemical substance that contains barium as part of the chemical's infrastructure. Does not include barium sulfate, CAS # 7727-43-7. Includes, but is not limited to:	542-62-1	Barium Cyanide

Chemical Category	CAS No.	Chemical Name
1003 Beryllium Compounds Includes any unique chemical substance that contains beryllium as part of the chemical's infrastructure. Includes, but is not limited to:	7787-47-5	Beryllium Chloride
	7787-49-7	Beryllium Fluoride
	7787-55-5	Beryllium Nitrate
	13597-99-4	Beryllium Nitrate
1004 Cadmium Compounds Includes any unique chemical substance that contains cadmium as part of the chemical's infrastructure. Includes, but is not limited to:	543-90-8	Cadmium Acetate
	7789-42-6	Cadmium Bromide
	10108-64-2	Cadmium Chloride
1009 Chlorophenols Please see EPA TRI reporting instructions. Includes, but is not limited to:	58-90-2	2,3,4,6-Tetrachlorophenol
	87-65-0	2,6 Dichlorophenol
	95-57-8	2-Chlorophenol
	609-19-8	3,4,5 Trichlorophenol
	933-75-5	2,3,6 Trichlorophenol
	933-78-8	2,3,5 Trichlorophenol
	5344-82-1	2-Chlorophenolthiourea
	7005-72-3	Chlorophenyl Phenyl Ether
	15950-66-0	2,3,4 trichlorophenol
	25167-82-2	Trichlorophenol
1012 Chromium Compounds Includes any unique chemical substance that contains chromium as part of the chemical's infrastructure. Includes, but is not limited to:	1066-30-4	Chromic Acetate
	2146-10-8	Sodium Chromate
	2151-06-8	Strontium Chromate
	2151-16-3	Ammonium Bichromate
	7738-94-5	Chromic Acid
	7778-50-9	Potassium Bichromate
	7788-98-9	Ammonium chromate
	7789-00-6	Potassium Chromate
	10049-05-5	Chromous Chloride
	10588-01-9	Sodium Bichromate
	10101-53-8	Chromic Sulfate
	11115-74-5	Chromic Acid
	13765-19-0	Calcium chromate
	14307-35-8	Lithium Chromate

Chemical Category	CAS No.	Chemical Name
1013 Cobalt Compounds Includes any unique chemical substance that contains cobalt as part of the chemical's infrastructure. Includes, but is not limited to:	544-18-3	Cobaltous Formate
	7789-43-7	Cobaltous Bromide
	14017-41-5	Cobaltous Sulfamate
1015 Copper Compounds Includes any unique chemical substance that contains copper as part of the chemical's infrastructure. Does not include copper phthalocyanine compounds that are substituted with only hydrogen, and/or chlorine, and/or bromine. Includes, but is not limited to:	137-29-1	Copper, bis(dimethylcarbamodithioato-s-s)-
	544-92-3	Copper Cyanide
	815-82-7	Cupric Tartrate
	3251-23-8	Cupric Nitrate
	5893-66-3	Cupric Oxalate
	7447-39-4	Cupric Chloride
	7758-98-7	Cupric Sulfate
	10380-29-7	Cupric Sulfate, Ammoniated
1016 Cyanide Compounds X^+CN^- where $X = H^+$ or any other group where a formal dissociation may occur. For example KCN or $CA(Cn)_2$. Includes, but is not limited to:	57-12-5	Cyanides
	143-33-9	Sodium Cyanide
	151-50-8	Potassium Cyanide
	460-19-5	Cyanogen
	506-61-6	Potassium Silver Cyanide
	506-64-9	Silver Cyanide
	506-68-3	Cynogen Bromide
	506-77-4	Cyanogen Chloride
	542-62-1	Barium Cyanide
	544-92-3	Copper Cyanide
	557-19-7	Nickel Cyanide
	557-21-1	Zinc Cyanide
	592-01-8	Calcium Cyanide
	592-04-1	Mercuric Cyanide
	592-85-8	Mercuric Thiocyanate
	592-87-0	Lead Thiocyanate
	1762-95-4	Ammonium Thiocyanate
1050 Diisocyanates Includes only the chemicals listed here.	91-93-0	3,3'-Dimethoxybenzidine-4,4' diisocyanate
	91-97-4	3-3'-Dimethyl-4,4'-diphenylene diisocyanate
	101-68-8	Methylenebis(phenylisocyanate)(MDI) (previously reportable under EPCRA)
	104-49-4	1,4 Phenylene diisocyanate
	123-61-5	1,3-Phenylene diisocyanate

	139-25-3	3-3' Dimethyl diphenylmethane-4-4' diisocyanate
	822-06-0	Hexamethylene 1,6 -diisocyanate
	2556-36-7	1,4 Cyclohexane diisocyanate
	3173-72-6	1,5 Naphthalene diisocyanate
	4098-71-9	Isophorone diisocyanate
	4128-73-8	4,4'-diisocyanatodiphenylether
	5124-30-1	1,1-Methylene bis(4-isocyanato-cyclohexane
	9016-87-9	Polmeric diphenylmethane diisocyanate
	10347-54-3	1,4-Bis(methylisocyanate)cyclohexane
	15646-96-5	2,4,4-Trimethylhexamethylene diisocyanate
	16938-22-0	2,2,4-Trimethylhexamethylene diisocyanate
	38661-72-2	1,3-Bis(methylisocyanate)cyclohexane
	75790-84-0	4-Methyldiphenylmethane-3,4-diisocyanate
	75790-87-3	2,4'-Diisocyanatodiphenyl sulfide
	134190-37-7	Diethyldiisocyanatobenzene

1060 Dioxin & Dioxin-Like Compounds Manufacturing; and the processing or otherwise use of dioxin or dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacture of that chemical. Includes only the chemicals listed here.	1746-01-6	2,3,7,8- Tetrachlorodibenzo-p-dioxin
	3268-87-92	1,2,3,4,6,7,8,9- Octachlorodibenzo-p-dioxin
	19408-74-3	1,2,3,7,8,9- Hexachlorodibenzo-p-dioxin
	35822-46-9	1,2,3,4,6,7,8- Heptachlorodibenzo-p-dioxin
	39001-02-0	1,2,3,4,6,7,8,9- Octachlorodibenzofuran
	39227-28-6	1,2,3,4,7,8- Hexachlorodibenzo-p-dioxin
	40321-76-4	1,2,3,7,8- Pentachlorodibenzo-p-dioxin
	51207-31-9	2,3,7,8- Tetrachlorodibenzofuran
	55673-89-7	1,2,3,4,7,8,9- Heptachlorodibenzofuran
	57117-31-4	2,3,4,7,8- Pentachlorodibenzofuran
	57117-41-6	1,2,3,7,8- Pentachlorodibenzofuran
	57117-44-9	1,2,3,6,7,8- Hexachlorodibenzofuran
	57653-85-7	1,2,3,6,7,8- Hexachlorodibenzo-p-dioxin
	60851-34-5	2,3,4,6,7,8- Hexachlorodibenzofuran
	67562-39-4	1,2,3,4,6,7,8- Heptachlorodibenzofuran
	70648-26-9	1,2,3,4,7,8- Hexachlorod-benzofuran
	72918-21-9	1,2,3,7,8,9- Hexachlorodibenzofuran

Ethylenebisdithiocarbamic acid, salts, esters Includes any unique chemical substance that contains an EBDC or an EBDC salt as part of that chemical's infrastructure. Includes, but is not limited to:	111-54-6	Ethylenebisdithiocarbamic acid, salts, esters
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Chemical Category	CAS No.	Chemical Name
1022 Certain Glycol Ethers Please see guidance on page B-4 of this document.		
1026 Lead Compounds Includes any unique chemical substance that contains lead as part of the chemical's infrastructure. Includes, but is not limited to:	301-04-2	Lead Acetate
	592-87-0	Lead Thiocyanate
	1072-35-1	Lead Stearate
	1314-87-0	Lead Sulfide
	1335-32-6	Lead Subacetate
	7428-48-0	Lead Stearate
	7446-27-7	Lead Phosphate
	7446-14-2	Lead Sulfate
	7645-25-2	Lead Arsenate
	7758-95-4	Lead Chloride
	7783-46-2	Lead Fluoride
	10099-74-8	Lead Nitrate
	10101-63-0	Lead Iodide
	10102-48-4	Lead Arsenate
	13814-96-5	Lead Fluoborate
	15739-80-7	Lead Sulfate
	52652-59-2	Lead Stearate
	56189-09-4	Lead Stearate
1027 Manganese Compounds Includes any unique chemical substance that contains lead as part of the chemical's infrastructure. Includes, but is not limited to:	7722-64-7	Potassium Permanganate
	15339-36-3	Manganese, bis(dimethylcarbamodithiato-s-s)
1028 Mercury Compounds Includes any unique chemical substance that contains mercury as part of the chemical's infrastructure. Includes, but is not limited to:	592-04-1	Mercuric Cyanide
	592-85-8	Mercuric Thiocyanate
	628-86-4	Mercury Fulminate
	7782-86-7	Mercurous Nitrate
	7783-35-9	Mercuric sulfate
	10415-75-5	Mercurous Nitrate
	10045-94-0	Mercuric Nitrate
1029 Nickel Compounds Includes any unique chemical substance that contains nickel as part of the chemical's infrastructure. Includes, but is not limited to:	557-19-7	Nickel Cyanide
	7718-54-9	Nickel chloride
	7786-81-4	Nickel Sulfate
	12054-48-7	Nickel Hydroxide
	13463-39-3	Nickel Carbonyl
	14216-75-2	Nickel Nitrate
	15699-18-0	Nickel Ammonium Sulfate
	37211-05-5	Nickel chloride

Chemical Category	CAS No.	Chemical Name
1055 Nicotine and Salts Includes any unique chemical substance that contains nicotine or a nicotine salt as part of the chemical's infrastructure. Includes, but is not limited to:	54-11-5	Nicotine
1090 Nitrate Compounds (water dissociable) Includes, but is not limited to:	1004-54-0	Mercuric Nitrate
	7761-88-8	Silver Nitrate
	7779-88-6	Zinc Nitrate
	7782-86-7	Mercurous Nitrate
	7787-55-5	Beryllium Nitrate
	10099-74-8	Lead Nitrate
	10102-06-4	Uranyl nitrate
	10102-45-1	Thallium Nitrate
	10415-75-5	Mercurous Nitrate
	10421-48-4	Ferric Nitrate
	13597-99-4	Beryllium Nitrate
	13746-89-9	Zirconium Nitrate
	14216-75-2	Nickel Nitrate
	36478-76-9	Uranyl Nitrate
1034 Polybrominated Biphenyls (PBBs) Please see EPA guidance.		
1045 Polychlorinated alkanes Please see EPA guidance.		
1035 Polycyclic Aromatic Compounds Includes only the chemicals listed here.	50-32-8	Benzo(a)pyrene
	53-70-3	Dibenzo(a,h)anthracene
	56-49-5	3-Methylcholanthrene
	56-55-3	Benz(a)anthracene
	57-97-6	7,12-Dimethylbenz(a)anthracene
	189-55-9	Benzo(r,s)pentaphene
	189-64-0	Benzo(a,h)pyrene
	191-30-0	Dibenzo(a,l)pyrene
	192-65-4	Dibenzo(a,e)pyrene
	193-39-5	Indeno[1,2,3-cd]pyrene
	194-59-2	7H-Dibenzo(c,g)carbazole
	205-99-2	Benzo(b)fluoranthene
	205-82-3	Benzo(j)fluoranthene

	206-44-0	Benzo(j,k)fluorene
	207-08-9	Benzo(k)fluoranthene
	218-01-9	Benzo(a)phenanthrene
	224-42-0	Dibenz(a,j)acridine
	226-36-8	Dibenz(a,h)acridine
	3697-24-3	5-Methylchrysene
	5385-75-1	Dibenzo(a,e)Fluoranthene
	5522-43-0	1-Nitropyrene

1036 Selenium Compounds Includes any unique chemical substance that contains selenium as part of the chemical's infrastructure. Includes, but is not limited to:	144-34-3	Carbamodithioic Acid, dimethyl-, Tetraanhydrosulfid with Orthothioselenious Acid
	630-10-4	Selenourea
	7446-08-4	Selenium Dioxide
	7488-56-4	Selenium sulfide
	7782-82-3	Sodium Selenite
	7783-00-8	Selenious Acid
	10102-18-8	Sodium Selenite
	12039-52-0	Selenious Acid, Dithallium (1+) Salt

1037 Silver Compounds Includes any unique chemical substance that contains silver as part of the chemical's infrastructure. Includes, but is not limited to:	506-61-6	Potassium Silver Cyanide
	506-64-9	Silver Cyanide
	7761-88-8	Silver Nitrate

1070 Strychnine and Salts Includes any unique chemical substance that contains strychnine or a strychnine salt as part of the chemical's infrastructure. Includes, but is not limited to:	57-24-9	Strychnine and Salts
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1038 Thallium compounds Includes any unique chemical substance that contains thallium as part of the chemical's infrastructure. Includes, but is not limited to:	563-68-8	Thallium Acetate
	1314-32-5	Thallic Oxide
	6533-73-9	Thallos Carbonate
	7446-18-6	Thallium sulfate
	7791-12-0	Thallium Chloride
	10031-59-1	Thallium sulfate
	10102-45-1	Thallium Nitrate
	12039-52-0	Selenious Acid, dithallium (1+0 Salt

Chemical Category	CAS No.	Chemical Name
1065 Vanadium Compounds Includes any unique chemical substance that contains vanadium as part of the chemical's infrastructure. Includes, but is not limited to:	1314-62-1	Vanadium Pentoxide
1039 Zinc Compounds Includes any unique chemical substance that contains zinc as part of the chemical's infrastructure. Includes, but is not limited to:	127-82-2	Zinc Phenolsulfonate
	137-30-4	Zinc, Bis(dimethylcarbomodithiato-S,S)-
	557-21-1	Zinc Cyanide
	557-34-6	Zinc Acetate
	557-41-5	Zinc Formate
	1314-84-7	Zinc Phosphide
	1332-07-6	Zinc Borate
	3486-35-9	Zinc Carbonate
	7646-85-7	Zinc Chloride
	7699-45-8	Zinc Bromide
	7720-78-7	Zinc Sulfate
	7779-86-4	Zinc Hydrosulfite
	7779-88-6	Zinc Nitrate
	7783-49-5	Zinc Fluoride
	14324-55-1	Zinc,Bis(diethylcarbamodithioato-S,S)-
	14639-97-5	Zinc Ammonium Chloride
	14639-98-6	Zinc Ammonium Chloride
	16871-71-9	Zinc Silicofluoride
	52628-25-8	Zinc Ammonium Chloride

Appendix C: Form S, Section 4: Toxics Use by Production Unit Examples

Example #1 – Production increase and chemical use in production unit and waste treatment operations

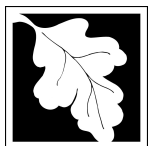
Company ABC (Facility ID 70709) etches aluminum with sodium hydroxide and then anodizes the aluminum part using sulfuric acid (CAS 8014-95-7). For reporting year 2009 the company reported 120,000 pounds of sulfuric acid otherwise used, 50,000 pounds of that use was waste treatment pH neutralization and 70,000 pounds was used in anodizing (process code AA-18) in production unit #1. The company reported 50,000 pounds of byproduct for reporting year 2009 and 20,000 pounds of sulfuric acid consumed or transformed on line 2b of the Form S.

The company's Form S for sulfuric acid in reporting year 2009 is:

- | | | |
|-----|-------------|--|
| 1e. | 120,000 lbs | Otherwise used |
| 1f. | 50,000 lbs | Generated as Byproduct |
| 2b. | 20,000 lbs | Chemical was consumed or transformed |
| 3b. | 50,000 lbs | Amount of chemical used in waste treatment |

Assuming all process efficiencies stayed the same in reporting years 2009 and 2010, and the company did not implement TUR projects in reporting year 2010, how would the facility complete the reporting year 2010 Form S if they had a 14% increase in business production and used 80,000 pounds of sulfuric acid in production unit #1? Assume the company used 50,000 pounds of sulfuric acid in waste treatment in reporting year 2010 and it reported a facility-wide use of sulfuric acid of 130,000 pounds in reporting year 2010.

The company's Form S for sulfuric acid in reporting year 2010 is on the following page:



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010

Reporting Year

ABC

Facility Name

70709

DEP Facility ID Number

Sulfuric Acid

Chemical Name

Section 1: Facility-Wide Use of Listed Chemical

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



9014-95-7

a. MA DEP CAS #

Sulfuric Acid

b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. **NOTE:** 'Generated as byproduct' (item f.) means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

c. Manufactured

130,000

e. Otherwise Used

d. Processed

57,143

f. Generated As Byproduct

h. ☐ Check here to input Form R or A information to MassDEP i. _____
Production Ratio

g. Shipped In Or As Product

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c, d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

a. Chemical Was Recycled On Site

22,857

b. Chemical Was Consumed Or Transformed

c. Chemical Was Held In Inventory

d. Chemical Is A Compound

e. Other

f. Did anything non-routine occur at your facility during the reporting year that affected the data reported?

☐ Yes* ☒ No

*If your answer is Yes, you may explain in Section 4.m. on Page 3.

Section 3: Chemicals Used in Waste Treatment Units

a. Is this chemical used to treat waste or control pollution?

☒ Yes

☐ No*

*If your answer is No, please skip ahead to Section 4.

b. Please enter the amount of the chemical (in pounds) used to treat waste or control pollution.

50,000

Pounds

Section 3: Chemicals Used in Waste Treatment Units (continued)

- c. Did the use of this chemical for waste treatment or pollution control increase or decrease by 10 percent or more compared with the previous reporting year?

c.1 ☐ Yes* ☒ No *If your answer is Yes, you may explain in Section 4.m. on Page 3.

c.2 ☐ Yes ☒ No Are there more chemicals to report? (Use ONLY if ALL chemicals are used to treat waste or control pollution.)

Section 4: Toxics Use by Production Unit

1

a. Production Unit #

- b. Quantity of Chemical Code:

Use

- ☐ 1. ≤5,000 lbs. ☐ 2. > 5,000 ≤10,000 lbs. ☒ 3. > 10,000 lbs. ≤100,000 lbs.
☐ 4. > 100,000 lbs. ≤500,000 lbs. ☐ 5. > 500,000 lbs.

- c. Did the use of this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to g. below.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

AA-18

I

68

d.1.

2.

3a.

3b.

3c.

e.1.

2.

3a.

3b.

3c.

f.1.

2.

3a.

3b.

3c.

Byproduct

- g. Was byproduct generated for this chemical less than 1 percent of use in this production unit?

☐ Yes* ☒ No *If your answer is Yes, skip ahead to m. on Page 3.

- h. Did the byproduct generated for this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to m. on Page 3.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

AA-18

I

68

i.1.

2.

3a.

3b.

3c.

j.1.

2.

3a.

3b.

3c.

k.1.

2.

3a.

3b.

3c.

l. Are there more production units that use this chemical? ☐ Yes ☐ No

m. You may add any comments or explanations regarding chemical use and/or byproduct generated in this production unit, chemical use in waste treatment (from Section 3), and non-routine occurrences at your facility (from Section 2).

Solution for Problem #1:

Reporting Year: **2010**

Facility Name: **Company ABC**

DEP Facility ID Number: **70709**

Chemical Name: **Sulfuric Acid**

Section 1: Facility wide use of Listed Chemical

1a. **9014-95-7**

1b. **Sulfuric Acid**

1e. **130,000 lbs** **Otherwise Used** **(given)**

1f. **57,143 lbs** **Generated as Byproduct**

(50,000 lbs byproduct 2009/70,000 lbs used in anodizing 2009)*(80,000 lbs used in anodizing 2009) = 57,143 lbs of byproduct 2010

This calculation is based on the statement in the problem that “...all process efficiencies stayed the same in 2009 and 2010...”

Section 2: Materials Balance

2b. **22,860 lbs** **Chemical Was Consumed or Transformed**

80,000 lbs used in anodizing – 57,143 lbs byproduct = 22,857 lbs consumed or transformed

2f. **No**

Section 3: Chemicals Used in Waste Treatment Units

3a. **Yes**

3b. **50,000 lbs (given)**

3c. **No.**

Section 4: Toxics Use by Production Unit

4a. **Production Unit #1**

4b. **3. >10,000 lbs. ≤100,000 lbs.**

4c. **Yes.**

Formula: If:

$(\text{previous year's use}) * 0.9 < (\text{reporting year's use}) < (\text{previous year's use}) * 1.1$

Then: the use of the chemical did not change by 10%.

2009 use (70,000 lbs) * 1.1 = 77,000 lbs

2009 use (70,000 lbs) * 0.9 = 63,000 lbs

2010 Use = 80,000 lbs which is a greater than 10% increase.

4d1. **AA-18**

4d2. **I**

4d3a. **68 (Production increased)**

4g. **No.**

4h. **Yes.**

Formula: If:

$(\text{previous year's byproduct generation}) * 0.9 < (\text{reporting year's byproduct generation}) < (\text{previous year's byproduct generation}) * 1.1$

Then: byproduct generation of the chemical did not change by 10%.

2009 byproduct generation (50,000 lbs) * 1.1 = 55,000 lbs

2009 byproduct generation (50,000 lbs) * 0.9 = 45,000 lbs

2010 byproduct generation = 57,143 lbs which is a greater than 10% increase.

4i1. **AA-18.**

4i2. **I**

4i3. **68 (Production increased)**

4l. **No**

Example #2: Increase in production and TUR implementation

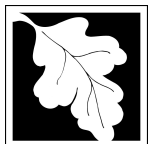
Boards Etc. (Facility ID 9763459) is a contract circuit board assembler. It attaches customer specified components on customer supplied circuit board via wave soldering (process code CC-08) in production unit #1. In reporting year 2009, it used tin-lead solder that contained 3,436 pounds of lead (CAS 7439-92-1), a TURA reportable substance. That same year the company sent solder dross off-site for recycling and received a statement back from its recycler that 1,827 pounds of lead were recovered from the dross. Results of engineering estimates show that 2.5 pounds of lead were released as an air point source and 1,606 pounds of lead were applied to customer circuit boards and shipped with products.

The company's Form S for lead in reporting year 2009 is:

1d.	3,436 lbs	Processed
1f.	1,829.5 lbs	Generated as Byproduct
1g.	1,606 lbs	Shipped in or as product

In reporting year 2010 the company purchased and processed 3,354 pounds of lead in their solder. During that same reporting year it processed 10% more circuit boards than in reporting year 2009 and implemented a dross control program that reduced dross generation and recoverable lead to 1,585 pounds. Engineering estimates indicate 2.7 pounds of lead were released to the air as a point source and that 1,766 pounds of lead were applied to circuit boards.

The company's Form S for lead in reporting year 2010 is on the following page:



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010
Reporting Year
Boards, etc.
Facility Name
9763459
DEP Facility ID Number
Lead
Chemical Name

Section 1: Facility-Wide Use of Listed Chemical

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



7439-92-1

a. MA DEP CAS #

Lead

b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. **NOTE:** 'Generated as byproduct' (item f.) means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

c. Manufactured

3,354

d. Processed

1587.7

e. Otherwise Used

f. Generated As Byproduct

1,766

h. ☐ Check here to input Form R or A information i. _____
to MassDEP Production Ratio

g. Shipped In Or As Product

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c, d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

a. Chemical Was Recycled On Site

b. Chemical Was Consumed Or Transformed

c. Chemical Was Held In Inventory

d. Chemical Is A Compound

e. Other

f. Did anything non-routine occur at your facility during the reporting year that affected the data reported?

☐ Yes* ☒ No

*If your answer is Yes, you may explain in Section 4.m. on Page 3.

Section 3: Chemicals Used in Waste Treatment Units

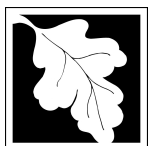
a. Is this chemical used to treat waste or control pollution?

☐ Yes ☒ No*

*If your answer is No, please skip ahead to Section 4.

b. Please enter the amount of the chemical (in pounds) used to treat waste or control pollution.

Pounds



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010

Reporting Year

Boards, etc.

Facility Name

9763459

DEP Facility ID Number

Lead

Chemical Name

Section 3: Chemicals Used in Waste Treatment Units (continued)

c. Did the use of this chemical for waste treatment or pollution control increase or decrease by 10 percent or more compared with the previous reporting year?

c.1. ☐ Yes* ☐ No *If your answer is Yes, you may explain in Section 4.m. on Page 3.

c.2. ☐ Yes ☐ No Are there more chemicals to report? (Use ONLY if ALL chemicals are used to treat waste or control pollution.)

Section 4: Toxics Use by Production Unit

1

a. Production Unit #

b. Quantity of Chemical Code:

Use

- ☒ 1. ≤5,000 lbs. ☐ 2. > 5,000 ≤10,000 lbs. ☐ 3. > 10,000 lbs. ≤100,000 lbs.
☐ 4. > 100,000 lbs. ≤500,000 lbs. ☐ 5. > 500,000 lbs.

c. Did the use of this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to g. below.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

CC-08

D

50

68

d.1.

2.

3a.

3b.

3c.

e.1.

2.

3a.

3b.

3c.

f.1.

2.

3a.

3b.

3c.

Byproduct

g. Was byproduct generated for this chemical less than 1 percent of use in this production unit?

☐ Yes* ☒ No *If your answer is Yes, skip ahead to m. on Page 3.

h. Did the byproduct generated for this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to m. on Page 3.

Process code(s) where most significant changes occurred (up to three in descending order)	Type of Change (Enter "I" for Increase, "D" for Decrease)	Technique Code(s) (up to three per process code)		
CC-08	D	50	68	
i.1.	2.	3a.	3b.	3c.
j.1.	2.	3a.	3b.	3c.
k.1.	2.	3a.	3b.	3c.

l. Are there more production units to report? ☐ Yes ☒ No

m. You may add any comments or explanations regarding chemical use and/or byproduct generated in this production unit, chemical use in waste treatment (from Section 3), and non-routine occurrences at your facility (from Section 2

Please note that lead use and byproduct generation decreased (by 2% and 13%, respectively), while production increased by 10%. We recycle our lead dross off-site.

Solution for Problem #2:

Reporting Year: **2010**

Facility Name: **Boards, etc.**

DEP Facility ID Number: **009-76-3459**

Chemical Name: **Lead**

Section 1: Facility wide use of Listed Chemical

1a. **7439-92-1**

1b. **Lead**

1d. **3,354 lbs** **Processed** **(given)**

1f. **1,587.7 lbs** **Generated as Byproduct**

1,585 lbs (recovered by offsite recycler) + 2.7 lbs released to air as point source = 1587.7 lbs

Note: This assumes that all lead sent to recycler was reclaimed and reported.

1g. **1,766 lbs** **Shipped In or As Product** **(given)**

Section 2: Materials Balance

2f. **No**

Section 3: Chemicals Used in Waste Treatment Units

3a. **No**

Section 4: Toxics Use by Production Unit

4a. **Production Unit #1**

4b. **$1. \leq 5,000$ lbs.**

4c. **Yes – Toxics use reduction was implemented.**

Formula: If:

$(\text{previous year's use}) * 0.9 < (\text{reporting year's use}) < (\text{previous year's use}) * 1.1$
Then: the use of the chemical did not change by 10%.

2009 use (3,436 lbs) * 1.1 = 3,779.6 lbs

2009 use (3,436 lbs) * 0.9 = 3,092.4 lbs

2010 Use = 3,354 lbs. However, toxics use reduction was implemented in the form of a dross control program.

4d1. **CC-08**

4d2. **D**

4d3a. **50 (Improved Operations and Maintenance), 68 (Production increased)**

4g. **No.**

4h. **Yes. (Toxics use reduction was implemented AND byproduct generation decreased by more than 10%).**

Formula: If:

$(\text{previous year's byproduct generation}) * 0.9 < (\text{reporting year's byproduct generation}) < (\text{previous year's byproduct generation}) * 1.1$
Then: byproduct generation of the chemical did not change by 10%.

2009 byproduct generation (1,829.5 lbs) * 1.1 = 2,012.5 lbs

2009 byproduct generation (1,829.5 lbs) * 0.9 = 1,646.6 lbs

2010 byproduct generation = 1,587.7 lbs.

4i1. **CC-08.**

4i2. **D**

4i3. **50 (Improved Operations and Maintenance), 68 (Production increased)**

4l. **No.**

4m. **Please note that lead use and byproduct generation decreased (by 2% and 13%, respectively), while production increased by 10%. We recycle our lead dross off-site.**

Example #3 Product reformulation and on-site recycling

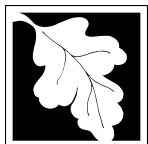
The Green Paint Company (Facility ID 745978) prides itself in the manufacture of environmentally friendly paints. It manufactures a line of VOC compliant solvent based paint in production unit #1 for use in metal finishing applications that contain xylene mixed isomers (CAS 1330-20-7). In reporting year 2009 it processed 126,541 pounds of xylene mixed isomers (including reclaimed solvent) and produced 56,237 gallons of metal finishing paint.

In the following reporting year 2010, the company manufactured/compounded (process code GG-01) a reformulated version of the metal finishing paint using a different resin that required the use of approximately 12% less xylene mixed isomers and no additional solvents. The company produced 58,116 gallons of the reformulated metal finishing paint using only 115,376 pounds of xylene mixed isomers. Fugitive emissions of xylene mixed isomers during processing operations were estimated at 1,135 pounds in reporting year 2009 and 1,098 pounds in reporting year 2010. The company has a non-integral on-site recycling solvent still (DD-02) that reclaimed approximately 800 pounds each year of xylene mixed isomers from processing operations. The amount of reclaimed xylene is included in the total facility-wide usage numbers stated above. The company shipped off-site 2 drums of hazardous waste in each year that it estimated contained a total of 250 pounds of xylene mixed isomers in reporting year 2009 and 225 pounds in reporting year 2010.

The company's Form S for xylene mixed isomers in reporting year 2009 is:

1d.	126,541 lbs	Processed
1f.	2,185 lbs	Generated as Byproduct
1g	125,156 lbs	Shipped in or as product
2a.	800 lbs	Chemical was recycled on site

The company's Form S for xylene mixed isomers in reporting year 2010 is on the following page:



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010
Reporting Year
Green Paint Company
Facility Name
745978
DEP Facility ID Number
Xylene (mixed isomers)
Chemical Name

Section 1: Facility-Wide Use of Listed Chemical

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1330-20-7

a. MA DEP CAS #

Xylene (mixed isomers)

b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. **NOTE:** 'Generated as byproduct' (item f.) means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

c. Manufactured

115,376

d. Processed

2,123

e. Otherwise Used

f. Generated As Byproduct

114,053

h. ☐ Check here to input Form R or A information to MassDEP i. _____
Production Ratio

g. Shipped In Or As Product

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c, d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

800

a. Chemical Was Recycled On Site

b. Chemical Was Consumed Or Transformed

c. Chemical Was Held In Inventory

d. Chemical Is A Compound

e. Other

f. Did anything non-routine occur at your facility during the reporting year that affected the data reported?

☐ Yes* ☒ No

*If your answer is Yes, you may explain in Section 4.m. on Page 3.

Section 3: Chemicals Used in Waste Treatment Units

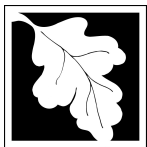
a. Is this chemical used to treat waste or control pollution?

☐ Yes ☒ No*

*If your answer is No, please skip ahead to Section 4.

b. Please enter the amount of the chemical (in pounds) used to treat waste or control pollution.

Pounds



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010

Reporting Year

Green Paint Company

Facility Name

745978

DEP Facility ID Number

Xylene (mixed isomers)

Chemical Name

Section 3: Chemicals Used in Waste Treatment Units (continued)

- c. Did the use of this chemical for waste treatment or pollution control increase or decrease by 10 percent or more compared with the previous reporting year?

c.1 ☐ Yes* ☐ No *If your answer is Yes, you may explain in Section 4.m. on Page 3.

c.2 ☐ Yes ☐ No Are there more chemicals to report? (Use ONLY if ALL chemicals are used to treat waste or control pollution.)

Section 4: Toxics Use by Production Unit

1

a. Production Unit #

Use

- b. Quantity of Chemical Code:

☐ 1. ≤5,000 lbs. ☐ 2. > 5,000 ≤10,000 lbs. ☐ 3. > 10,000 lbs. ≤100,000 lbs.
☒ 4. > 100,000 lbs. ≤500,000 lbs. ☐ 5. > 500,000 lbs.

- c. Did the use of this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to g. below.

Process code(s) where most significant changes occurred (up to three in descending order)

GG-01

d.1.

Type of Change (Enter "I" for Increase, "D" for Decrease)

D

2.

Technique Code(s) (up to three per process code)

20

3a.

3b.

3c.

e.1.

2.

3a.

3b.

3c.

f.1.

2.

3a.

3b.

3c.

Byproduct

- g. Was byproduct generated for this chemical less than 1 percent of use in this production unit?

☐ Yes* ☒ No *If your answer is Yes, skip ahead to m. on Page 3.

- h. Did the byproduct generated for this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to m. on Page 3.

Process code(s) where most significant changes occurred (up to three in descending order)	Type of Change (Enter "I" for Increase, "D" for Decrease)	Technique Code(s) (up to three per process code)		
GG-01	D	20		
i.1.	2.	3a.	3b.	3c.
j.1.	2.	3a.	3b.	3c.
k.1.	2.	3a.	3b.	3c.

l. Are there more production units that use this chemical? ☐ Yes ☒ No

m. You may add any comments or explanations regarding chemical use and/or byproduct generated in this production unit, chemical use in waste treatment (from Section 3), and non-routine occurrences at your facility (from Section 2).

The use and byproduct generation of xylene (mixed isomers) decreased even with an increase in business. We reformulated our metal finishing line of paint that requires the use of approximately 12% less xylene per gallon of paint produced.

Solution for Problem #3:

Reporting Year: **2010**

Facility Name: **Green Paint Company**

DEP Facility ID Number: **745978**

Chemical Name: **Xylene mixed isomers**

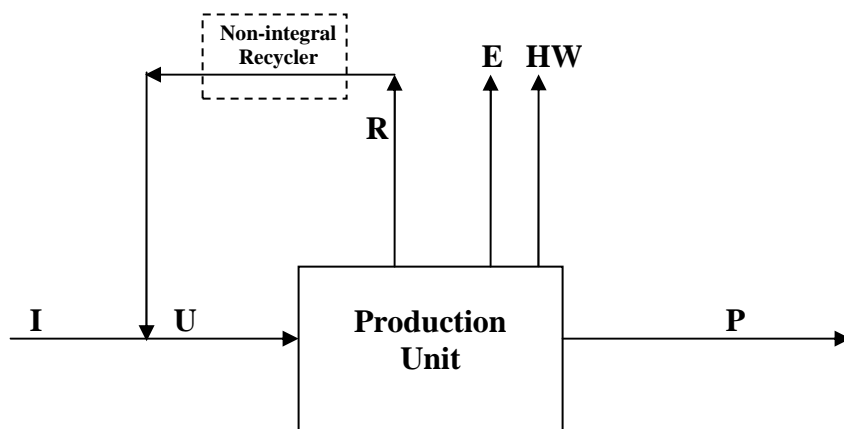
Section 1: Facility wide use of Listed Chemical

1a. **1330-20-7**

1b. **Xylene mixed isomers**

1d. **115,376 lbs** **Processed** **(given)**

1f. **2,123 lbs** **Generated as Byproduct**



I = Initial input = 115,376 lbs used – 800 lbs recycled = 114,576 lbs. It states in the problem that “The amount of reclaimed xylene is included in the total facility-wide usage numbers stated above” – therefore, the amount of nonrecycled xylene must be less than that used.

U = Used at facility = 115,376 lbs (given in problem)

P = Amount shipped in product = 115,376 lbs used (U) – 1,098 lbs fugitive emissions(E) – 225 lbs hazardous waste (HW) = 114,043 lbs

HW = Hazardous Waste = 225 lbs disposed of in drums

E = Fugitive emissions = 1,098 lbs

R = Non-integrally recycled xylene = 800 lbs

Total byproduct = 800 lbs (recovered by non-integral onsite recycling) + 1,098 lbs released as fugitive emissions + 225 lbs hazardous waste = 2,123 lbs

1g. 114,053 lbs Shipped In or As Product

115,376 lbs used (includes recycled xylene as stated in problem) – 1,098 lbs fugitive emissions – 225 lbs hazardous waste = 114,053 lbs.

Section 2: Materials Balance

2a. 800 lbs Chemical Was Recycled Onsite

2f. No

Section 3: Chemicals Used in Waste Treatment Units

3a. No

Section 4: Toxics Use by Production Unit

4a. Production Unit #1

4b. **4. > 100,000 lbs. ≤ 500,000 lbs.**

4c. **Yes – Toxics use reduction was implemented.**

Formula: If:

$(\text{previous year's use}) * 0.9 < (\text{reporting year's use}) < (\text{previous year's use}) * 1.1$

Then: the use of the chemical did not change by 10%.

2009 use (126,541 lbs) * 1.1 = 139,195 lbs

2009 use (126,541 lbs) * 0.9 = 113,887 lbs

2010 Use = 115,376 lbs. However, toxics use reduction was implemented through product reformulation.

4d1. **GG-01**

4d2. **D**

4d3a. **20 (Product reformulation)**

4g. **No.**

4h. **Yes – Toxics use reduction was implemented.**

Formula: If:

$(\text{previous year's byproduct generation}) * 0.9 < (\text{reporting year's byproduct generation}) < (\text{previous year's byproduct generation}) * 1.1$

Then: byproduct generation of the chemical did not change by 10%.

2009 byproduct generation (2,185 lbs) * 1.1 = 2404 lbs

2009 byproduct generation (2,185 lbs) * 0.9 = 1967 lbs

2010 byproduct generation = 2,123 lbs. However, toxics use reduction was implemented.

4i1. **GG-01.**

4i2. **D**

4i3. **20 (Product reformulation)**

4l. **No.**

4m. **The use and byproduct generation of xylene mixed isomers decreased even with an increase in business. We reformulated our metal finishing line of paint that requires the use of approximately 12% less xylene per gallon of paint produced.**

Example #4 Web coating improved cleaning operation with chemical substitution

Web Coating PST Company (Facility ID 996492) offers an array of solvent-based coating services and products. The company uses a thermal oxidizer to destroy the half-dozen different VOCs the company uses to apply adhesives (process code AA-03) and apply other solvent based coatings (process code AA-03). In reporting year 2009 the facility-wide usage of methyl ethyl ketone (MEK - CAS 78-93-3) was 226,541 pounds. It used 125,789 pounds of MEK in an adhesive (production unit #3) applied to 1.2 million square yards of product and the remaining 100,752 pounds of MEK in facility-wide equipment clean up (process code FF-01) operations (production unit #9).

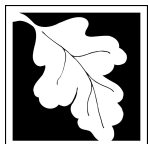
The company's Form S for methyl ethyl ketone in reporting year 2009 is:

- 1e. 226,541 lbs Otherwise Use
- 1f. 226,541 lbs Byproduct

In reporting year 2010 the company implemented a number of changes to its equipment clean-up operations. It began substituting a non-reportable terpene-based alternative for clean-up of several different coatings. It adjusted the dams in the coater reservoir (process code AA-03) to decrease the amount of adhesive leaking past the dam, reducing clean-up needed. It also provided worker training on using mechanical scraping and wiping prior to solvent application in roller and equipment clean-up. The company will be evaluating the installation of a centralized cleaning unit and the possibility of on-site solvent recycling in reporting year 2010.

In reporting year 2010 the company used 123,642 pounds of MEK in production unit #3 and produced 1.16 million yards of product. It used only 61,267 pounds of MEK in clean-up operations, even though they produced a comparable amount of product facility-wide as in reporting year 2009. The most significant reductions of MEK in clean-up operations (production unit #9) in order of descending importance are: the use of a terpene cleaner alternative, dam adjustment, worker training, and better use of mechanical scrapers.

The company's Form S for methyl ethyl ketone in reporting year 2010 is on the following page:



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010

Reporting Year

Web Coating PST Company

Facility Name

996492

DEP Facility ID Number

Methyl Ethyl Ketone

Chemical Name

Section 1: Facility-Wide Use of Listed Chemical

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



78-93-3

a. MA DEP CAS #

Methyl Ethyl Ketone

b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. **NOTE:** 'Generated as byproduct' (item f.) means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

c. Manufactured

184,909

e. Otherwise Used

d. Processed

184,909

f. Generated As Byproduct

h. ☐ Check here to input Form R or A information to MassDEP i. _____
Production Ratio

g. Shipped In Or As Product

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c, d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

a. Chemical Was Recycled On Site

b. Chemical Was Consumed Or Transformed

c. Chemical Was Held In Inventory

d. Chemical Is A Compound

e. Other

f. Did anything non-routine occur at your facility during the reporting year that affected the data reported?

☐ Yes* ☒ No

*If your answer is Yes, you may explain in Section 4.m. on Page 3.

Section 3: Chemicals Used in Waste Treatment Units

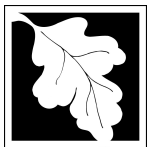
a. Is this chemical used to treat waste or control pollution?

☐ Yes ☒ No*

*If your answer is No, please skip ahead to Section 4.

b. Please enter the amount of the chemical (in pounds) used to treat waste or control pollution.

Pounds



Massachusetts Department of Environmental Protection
Bureau of Waste Prevention

Toxics Use Report - Form S

Chemical Use Facility-Wide and by Production Units

2010

Reporting Year

Web Coating PST Company

Facility Name

996492

DEP Facility ID Number

Methyl Ethyl Ketone

Chemical Name

Section 3: Chemicals Used in Waste Treatment Units (continued)

- c. Did the use of this chemical for waste treatment or pollution control increase or decrease by 10 percent or more compared with the previous reporting year?

c.1. ☐ Yes* ☐ No

*If your answer is Yes, you may explain in Section 4.m. on Page 3.

c.2. ☐ Yes ☐ No

Are there more chemicals to report? (Use ONLY if ALL chemicals are used to treat waste or control pollution.)

Section 4: Toxics Use by Production Unit

003

a. Production Unit #

Use

- b. Quantity of Chemical Code:

☐ 1. ≤5,000 lbs.

☐ 2. > 5,000 ≤10,000 lbs.

☐ 3. > 10,000 lbs. ≤100,000 lbs.

☒ 4. > 100,000 lbs. ≤500,000 lbs.

☐ 5. > 500,000 lbs.

- c. Did the use of this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☐ Yes ☒ No*

*If your answer is No, skip ahead to g. below.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

d.1. _____

2. _____

3a. _____

3b. _____

3c. _____

e.1. _____

2. _____

3a. _____

3b. _____

3c. _____

f.1. _____

2. _____

3a. _____

3b. _____

3c. _____

Byproduct

- g. Was byproduct generated for this chemical less than 1 percent of use in this production unit?

☐ Yes* ☒ No

*If your answer is Yes, skip ahead to m. on Page 3.

- h. Did the byproduct generated for this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☐ Yes ☒ No*

*If your answer is No, skip ahead to m. on Page 3.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

i.1.

2.

3a.

3b.

3c.

j.1.

2.

3a.

3b.

3c.

k.1.

2.

3a.

3b.

3c.

l. Are there more production units that use this chemical?

☒ Yes ☐ No

m. You may add any comments or explanations regarding chemical use and/or byproduct generated in this production unit, chemical use in waste treatment (from Section 3), and non-routine occurrences at your facility (from Section 2).

Section 4: Toxics Use by Production Unit (continued)

009

a. Production Unit #

b. Quantity of Chemical Code:

Use

- ☐ 1. ≤5,000 lbs. ☐ 2. > 5,000 ≤10,000 lbs. ☒ 3. > 10,000 lbs. ≤100,000 lbs.
☐ 4. > 100,000 lbs. ≤500,000 lbs. ☐ 5. > 500,000 lbs.

c. Did the use of this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to g. below.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

FF-01	D	10	50	
d.1.	2.	3a.	3b.	3c.
AA-03	D	50		
e.1.	2.	3a.	3b.	3c.
f.1.	2.	3a.	3b.	3c.

Byproduct

g. Was byproduct generated for this chemical less than 1 percent of use in this production unit?

☐ Yes* ☒ No *If your answer is Yes, skip ahead to m. on Page 3.

h. Did the byproduct generated for this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☒ Yes ☐ No* *If your answer is No, skip ahead to m. on Page 3.

Process code(s) where most significant changes occurred (up to three in descending order)

Type of Change (Enter "I" for Increase, "D" for Decrease)

Technique Code(s) (up to three per process code)

FF-01	D	10	50	
i.1.	2.	3a.	3b.	3c.
AA-03	D	50		
j.1.	2.	3a.	3b.	3c.
k.1.	2.	3a.	3b.	3c.

i. Are there more production units that use this chemical? ☐ Yes ☒ No

- m. You may add any comments or explanations regarding chemical use and/or byproduct generated in this production unit, chemical use in waste treatment (from Section 3), and non-routine occurrences at your facility (from Section 2).

We substituted a less toxic terpene for MEK in cleanup operations. We also made adjustments to operating equipment resulting in less equipment requiring adhesive removal in clean-up operations.

Solution for Problem #4:

Reporting Year: **2010**

Facility Name: **Web Coating PST Company**

DEP Facility ID Number: **996492**

Chemical Name: **Methyl Ethyl Ketone (MEK)**

Section 1: Facility wide use of Listed Chemical

1a. **78-93-3**

1b. **Methyl Ethyl Ketone (MEK)**

1e. **184,909 lbs** **Otherwise Used**

Total use = Amount used in P.U. #3 (123,642 lbs) + Amount used in P.U. #9 (61,267 lbs) = 184,909 lbs

1f. **184,909 lbs** **Generated as Byproduct**

(Assumes all solvent evaporates from product)

Section 2: Materials Balance

2f. **No**

Section 3: Chemicals Used in Waste Treatment Units

3a. **No**

Section 4: Toxics Use by Production Unit – Production Unit #3

4a. **Production Unit #3**

4b. **4. > 100,000 lbs. ≤ 500,000 lbs.**

4c. **No.**

Formula: If:

$(\text{previous year's use}) * 0.9 < (\text{reporting year's use}) < (\text{previous year's use}) * 1.1$
Then: the use of the chemical did not change by 10%.

2009 use (125,789 lbs) * 1.1 = 138,368 lbs

2009 use (125,789 lbs) * 0.9 = 113,210 lbs

2010 Use = 123,642 lbs. No toxics use reduction was implemented for this production unit.

4g. **No.**

4h. **No.**

Formula: If:

$(\text{previous year's byproduct generation}) * 0.9 < (\text{reporting year's byproduct generation}) < (\text{previous year's byproduct generation}) * 1.1$
Then: byproduct generation of the chemical did not change by 10%.

2009 byproduct generation (125,789 lbs) * 1.1 = 138,368 lbs

2009 byproduct generation (125,789 lbs) * 0.9 = 113,210 lbs

2010 byproduct generation = 123,642 lbs. No toxics use reduction was implemented for this production unit.

4i. **Yes.**

Section 4: Toxics Use by Production Unit – Production Unit #9

4a. **Production Unit #9**

4b. **3. > 10,000 lbs. ≤ 100,000 lbs.**

4c. **Yes.**

Formula: If:

$(\text{previous year's use}) * 0.9 < (\text{reporting year's use}) < (\text{previous year's use}) * 1.1$
Then: the use of the chemical did not change by 10%.

2009 use (100,752 lbs) * 1.1 = 110,827 lbs

2009 use (100,752 lbs) * 0.9 = 90,677 lbs

2010 Use = 61,267 lbs.

4d1. **FF-01.**

4d2. **D**

4d3a. **10**

4d3b. **50**

4e1. **AA-03**

4e2. **D**

4e3a. **50**

4g. **No.**

4h. **Yes.**

Formula: If:

$(\text{previous year's byproduct generation}) * 0.9 < (\text{reporting year's byproduct generation}) < (\text{previous year's byproduct generation}) * 1.1$
Then: byproduct generation of the chemical did not change by 10%.

2009 byproduct generation (100,752 lbs) * 1.1 = 110,827 lbs

2009 byproduct generation (100,752 lbs) * 0.9 = 90,677 lbs

2010 byproduct generation = 61,267 lbs.

4i1. **FF-01.**

4i2. **D**

4i3a. **10**

4i3b. **50**

4j1. **AA-03**

4j2. **D**

4j3a. **50**

4l. **No.**

4m. **We substituted a less toxic terpene for MEK in clean-up operations. We also made adjustments to operating equipment resulting in less equipment requiring adhesive removal in clean-up operations.**

Appendix D: Common Reporting Errors

1. The toxics use report is missing forms.

A complete toxics use report includes the following:

- ✓ Form S Cover Sheet
- ✓ Form S for each chemical
- ✓ Form R for each chemical (or Form A, if applicable)
- ✓ Fee worksheet

Incomplete TURA reporting may result in late fees, enforcement and fines. **Each facility must file one Form S cover sheet for the facility as a whole. For each chemical reported, a Form R and Form S must be completed.** For ease of review, please place the Form R on top of the Form S for each chemical reported

2. Total chemical use as reported in Sections 1 c, d, and e of the Form S is not equal to the sum of the amounts generated as byproduct (Section 1 f) and shipped in product (Section 1 g).

Section of the report that may need correcting: FORM S: Section 1: Facility-wide Use of Chemical

Generally, there is a materials balance between chemical inputs and outputs on a facility-wide basis:

manufactured + processed + otherwise used = byproduct + shipped in product

If this is not the case on all of your forms, you should have checked one of the explanations (i.e., chemical was recycled on-site) in Section 2 on the Form. Otherwise, your materials accounting for the chemical may need to be checked.

3. The amount reported as byproduct on the Form S is *less than* the quantities reported in Section 8 (Source Reduction and Recycling Activities) of the Form R.

Sections of the report that may need correcting: FORM S: Section 1, item f: Facility-Wide byproduct generated and/or FORM R: Sections 5 and 6.

Byproduct will usually be equal to, or exceed, transfers and releases, since byproduct is the total quantity of waste that is generated during the production process calculated **before** it has been treated. The only time byproduct is less than transfers and releases is when some byproduct is reported as product on the Form S. (Please refer to page 23 of the instructions.)

4. The amount reported as byproduct on the Form S is *greater than* the quantities reported in Section 8 (Source Reduction and Recycling Activities) of the Form R when there is no on-site energy recovery, recycling, or destructive treatment.

Sections of the report that may need correcting: FORM S: Sections 1 item f: Facility-Wide byproduct generated, Section 2: Materials Balance and/or FORM R: Section 7.

Byproduct is the total quantity of waste that is generated during the production process, calculated **before** it has been treated. If a treatment system destroys some or all of the byproducts, or some of the byproducts are recycled, the reported byproducts will be greater than releases and transfers off-site. If there is no destructive treatment (including energy recovery), on-site recycling, or byproduct reported as product, then total byproduct on the Form S will be equal to Section 8 of the Form R. (Please refer to pages 23 of the instructions.)

Appendix E Questions and Answers

GENERAL REPORTING QUESTIONS

1. What happens if we reported last year but are exempt this year?

If your facility does not have to report this year but reported in a previous year, MassDEP recommends that you notify MassDEP in writing and explain why. This will help MassDEP distinguish facilities that are exempt from those that are out of compliance. The Form S Cover Sheet has a section that you may complete if your facility is newly exempt from reporting (see p. 16 of the guidance). You also may send a letter to MassDEP.

2. When should a plan summary be submitted?

Facilities must prepare or update their Plans in even-numbered calendar years only. A plan summary, resource conservation summary, or EMS progress report must be submitted to MassDEP by July 1st of the even-numbered year.

3. How can I file a trade secret claim?

If you are making a trade secret claim in your toxics use report, please call MassDEP's TURA Program at 617-292-5711 to request the "Trade Secret Special Instructions". (See p14 of the guidance.)

WASTE TREATMENT CHEMICALS

4. If I claim my whole facility as a production unit, can I include my waste treatment system as part of my production unit?

No. Waste treatment units are not considered manufacturing processes and therefore cannot be included in production units. Companies should track chemicals used in waste treatment units separately from those used in production units. Companies should report chemical use associated with waste treatment operations in Section 3 of the Form S, Chemicals Used in Waste Treatment Units.

5. What if my waste treatment unit is “hard-piped” or “integral” to my production process, can I then consider it part of my production unit?

No. Waste treatment units are not considered production processes even if they are “integral” to the manufacturing process. Chemicals used in them are reported separately from production units.

6. If I previously reported my waste treatment unit as part of my production unit, what should I do to correct my reporting?

You should consider all waste streams previously treated by your waste treatment unit as byproducts from production units in your facility. These byproducts should be allocated back to the production unit where they were generated. Chemicals used to perform the waste treatment operations (for example, acids and bases used for pH adjustment) can be reported separately in Section 3 of the Form S.

7. When I dump my spent acid process bath, I use it in my waste treatment, as is, without further treatment. Can I report this as byproduct as product?

No. Byproduct as product that is used on site must be used in a manufacturing process to be considered byproduct as product. Amounts of spent acid and base baths that are used to adjust pH in waste treatment operations can be used to reduce facility-wide use of the reportable chemicals. They are still considered byproducts when they leave the production unit.

TUR PLANNER CERTIFICATION

8. How do I obtain an application for certification or recertification as a TUR Planner?

Please call 617-556-1011 for a "Planner Certification Application" or "Planner Recertification Application," depending upon your situation. You also can download the application from MassDEP's web site at www.mass.gov/dep/toxics/approvals/turforms.htm#cert

9. Once I receive the TUR Planner application, if I have questions concerning filling it out, can someone assist me?

Yes. Please call the MassDEP Planner Certification Program at 617-556-1011.

10. Can a planner receive credit for applicable courses taken outside the TURI and OTA curriculum?

Yes, as long as the courses fit the regulatory requirements found in 310 CMR 50.58. Courses offered by either OTA or TURI are usually pre-approved by MassDEP for use by TUR Planners seeking recertification credit. However, Planners do not receive credit by simply attending the pre-approved course; they must apply to MassDEP using the TUR Planner Continuing Education Credit Pre-approval Form to receive the credit.

Any organization wishing to offer courses pre-approved for credit for TUR Planners may contact the MassDEP Planner Program at 617-556-1011 for more information. MassDEP normally requests some tangible information (e.g., a syllabus, course description and length of time) prior to pre-approving a course for Planner credit. Once again, each Planner attending a pre-approved course and seminar must apply to MassDEP in order to receive the credit.

11. How do I find out what courses TURI is offering or planning to offer which are suitable for credit toward recertification?

Information on courses offered by TURI is available on the TURI web site at www.turi.org.

12. Once I take a course approved by MassDEP for TUR Planner credits, do I still need to apply to MassDEP for credit?

Yes. MassDEP may give a course instructor permission to state that his or her course has been approved by MassDEP for use by TUR Planners for recertification credit. However, in order to receive the credit you must apply to MassDEP. You may wait until you have all the required credits or you may use the TUR Planner Continuing Education Credit Pre-approval Form to receive credit immediately.

13. Is there a rollover of recertification credits into the next 2-year period allowed for those TUR Planners who have accumulated more than the required credits in any given certification and recertification period?

Generally no, since allowing a rollover of extra credits into the next recertification period would defeat the basic purpose of recertification, which is to keep TUR Planners up-to-date on current TUR planning techniques. However, exceptions may be made in certain situations. For example, an exception could be made for obtaining extra credits by taking a relevant TUR course during the end of a TUR Planner's certification or recertification period. In this case, some of the surplus credits could possibly be used toward the next recertification period.

14. What are the new TUR Planner requirements for certifying Resource Conservation (RC) Plans and Environmental Management Systems (EMS)?

The requirements can be found on MassDEP's web page.

www.mass.gov/dep/toxics/tura/turace.htm

15. Do TUR Planners need additional credits to sign RC Plans and EMS plans?

No, any RC and EMS credits obtained count toward the total number of credits required for recertification.

16. When are TUR Planner examinations held?

There are no set dates for TUR Planner examinations. MassDEP generally offers the examination once each year during late fall (usually in November), after TURI's planner course has been completed. All eligible TUR Planners are notified by mail. Everyone who has taken the TURI planner course since the last planner examination is notified by MassDEP of the upcoming examination. In addition, all examinees who have failed the examination in the past are notified by MassDEP. TURI also announces the pending examination in its planner classes.

17. Is there a professional organization for TUR Planners?

Yes. The Toxics Use Reduction Planning Association (TURPA) was formed in 1994. About three quarters of the members are from manufacturing facilities, some are consultants, and some belong to state agencies. For more information about TURPA, visit their web siteat: www.turpa.org.

Appendix F Guidance for TURA Reporting and Planning for Certain Metals and Metal Alloys

An alloy is a mixture of two or more metals or one or more metals and a nonmetal, as in carbon steel.

Effective reporting year 1995, the TURA Administrative Council delisted certain metals when present in a solid or molten alloy, but not including aerosols. The metals are:

Copper
Nickel
Chromium
Cobalt
Manganese

Effective reporting year 1998, the TURA Administrative Council delisted silver-copper mixture when present in an alloy form, but not including aerosols.

The established definition of an “alloy” requires that metals mixed with the primary metal must be intentionally added to improve its properties. A metallic substance that is pure or contains other metals as impurities is not considered an alloy. Consequently, copper and silver that is pure or that contains small amounts of impurities were not covered by the two Administrative Council delistings described above.

Effective reporting year 1999, however, the Administrative Council delisted pure (i.e., zero valance) copper and pure silver (including forms containing impurities), but not including aerosols.

The delistings for all the metals described above **DO NOT** extend to aerosols, dissolved metals, metal compounds, or metals that are not zero valance throughout the entire production process. Note that aerosols are metal particles that are less than 50 microns in diameter.

These metals have not been delisted from the EPCRA Toxics Release Inventory (TRI) List. Although delisting by the TURA Administrative Council means that no Toxics Use Report need be submitted, the federal Form R is still required by EPA. The federal Form R submitted to MassDEP should be identified as “federal only.”

Guidance

Questions have been raised regarding implementation of these delistings. This guidance has been produced to assist the regulated community in complying with TURA. If you have any remaining questions after reading this document, please contact MassDEP for compliance assistance or the Office of Technical Assistance for further information.

The delisted metals are copper, nickel, chromium, cobalt, manganese and silver. Some of the processes in which those metals might be used are described below with specific guidance.

- ❑ Etching processes – When a metal is removed from metal stock through chemical processing, the resultant metal salt is reportable if it is produced in threshold quantities. (In this case, the metal salt is “coincidentally manufactured.”) The 25,000-pound threshold would apply if the metal salt were

the only reportable chemical. It should be noted that the entire weight of the metal salt is considered when determining whether a threshold has been met, and not just the amount of the metal in the salt. As for the stock itself, any delisted metals contained in it are not reportable.

- ❑ Electropolishing operations - The metal salts in solution are reportable as “coincidentally manufactured” if they are produced in threshold quantities. Any delisted metals contained in the stock are not reportable.
- ❑ Grinding Operations - The delisted metals are not exempt from reporting when contained in aerosols, i.e., particles less than 50 microns in diameter (in this case, the metal is reported as “processed”). These metals are reportable if they are present in threshold quantities. When determining whether the reporting threshold has been exceeded, only the weight of the listed metal in the aerosol is considered, and not the total weight of the aerosol. Any delisted metals contained in the stock are not reportable.
- ❑ Multiple processes - In production units with multiple processes, certain individual processes may produce metal aerosols or metal salts in solution. Those aerosols and metal salts in solution would be reportable if produced in threshold quantities, as described above.
- ❑ Alloys in powdered form - If a metal is used in the powdered form, the facility will need to perform a particle size analysis to determine the amount of material less than 50 microns in size. If threshold quantities are produced, the metals are reportable if they are present in particles less than 50 microns in size. When determining whether the reporting threshold has been exceeded, only the weight of the listed metal is considered, and not the total weight of particles.

Relationship Between the Metal Delistings and MassDEP’s “Expanded Article” Exemption

In 1994, MassDEP adopted a policy that broadened the article exemption for state reporting purposes. Under the EPCRA article exemption, listed chemicals in an “article” are exempt if the item meets certain criteria, including the requirement that the article must retain its initial thickness or diameter. (See page 9 of this guidance for more information on the article exemption.)

MassDEP’s “expanded article exemption” was designed primarily to provide some reporting relief for firms otherwise ineligible for the exemption because they changed the shape of the article. Firms that draw wire are one example.

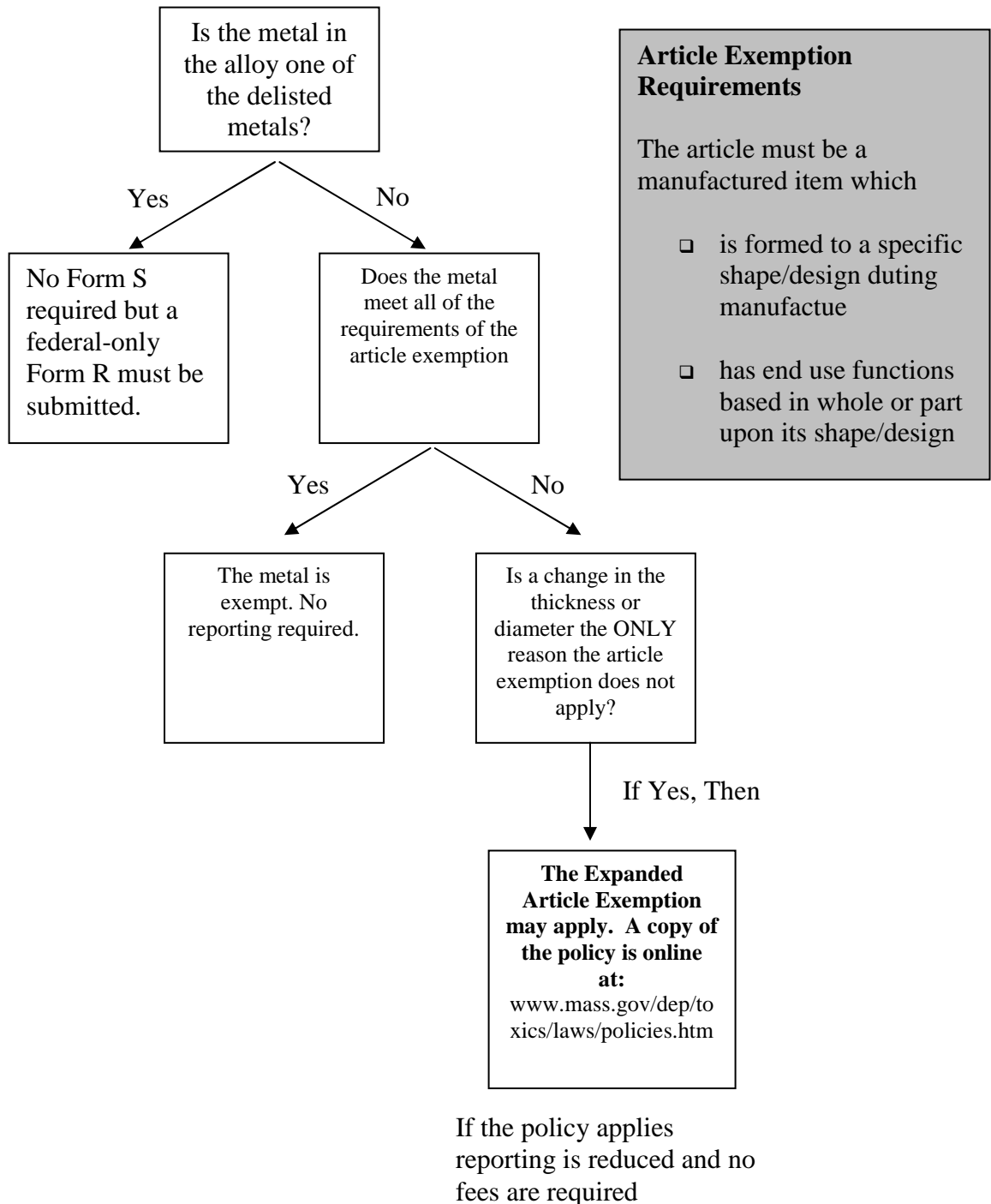
MassDEP’s expanded exemption applies to copper and its alloys, as well as steels including stainless steel. It excludes lead.

The policy is still in effect but the Administrative Council metal delistings apply to many of the metals which might be covered by the policy. Depending upon the circumstances, the expanded article exemption could be applicable where a metal fails to meet all the conditions of the delistings.

Example: The metal delisting applies to copper, nickel, chromium, cobalt, manganese and silver. Some stainless steels contain vanadium, which has not been delisted. A firm using such a steel with reportable quantities of vanadium may wish to consult **BWP-94-014 Policy for TURA Reporting and Planning for Certain Metalworking Operations**.

A copy of the policy and more information on the requirements may be obtained on the web at www.mass.gov/dep/toxics/laws/policies.htm or by calling 617-292-5711.

Applying the standard article exemption with the “expanded Article exemption”



Appendix G

INTEGRAL RECYCLING GUIDANCE UNDER THE TOXICS USE REDUCTION ACT (M.G.L.C 21I)

Introduction

The Toxics Use Reduction Act (TURA) identifies six (6) techniques which constitute toxics use reduction. The sixth technique is “recycling, reuse or extended use of toxics by using equipment or methods which become an integral part of the production unit of concern, including but not limited to filtration and other closed loop methods.” TURA also states, in part, that “toxics use reduction shall not include... off-site or out-of-production unit waste recycling.” This guidance provides detail on what types of activities are considered “integral recycling” under TURA.

This Appendix also provides general guidance on how each activity is regulated under MassDEP’s hazardous waste regulations (310 CMR 30.000). The reader must refer to the specific hazardous waste regulations, separate from this TURA guidance, to assure operational compliance with hazardous waste requirements. Critical terms such as “integral,” “production process,” “closed loop,” “totally enclosed,” and others are used differently under different statutes. As such, people must be careful to consider differing requirements to avoid non-compliance problems. Companies should check the regulations themselves or contact MassDEP at 617-292-5711 for further compliance assistance, if needed.

Should this integral recycling guidance result in significant reductions in your facility-wide use or byproduct figures, please contact MassDEP at 617-292-5711. Such significant changes in reporting can skew TURA trend data analysis and your notification to MassDEP will allow us to adjust our figures to prevent over counting of actual reductions.

DEFINITION

Activities Considered “Integral Recycling” Under This Guidance

- ❑ In order for an activity to qualify as “integral recycling” the material must be recycled or reused, not treated. From the TURA perspective, this is important because the statutory language refers to “recycling, reuse or extended use of toxics...” and also because the statutory definition of toxics use reduction specifically excludes anything that is, or that promotes “end-of-pipe treatment.”

If the recycling equipment and piping are permanently connected to a single production unit, the operation is integral. Also, if the recycling equipment is connected via detachable* hoses to a single production unit, the operation is integral.

- ❑ Detachable*, portable recycling equipment, directly connected to the production unit while the recycling equipment is in operation, is considered integral. There must be a sealed connection while the unit is in operation.
- ❑ If a manufacturing process includes a directly connected holding tank as part of its production unit, and the recycling unit is directly connected to the tank, this qualifies as integral recycling under this policy.

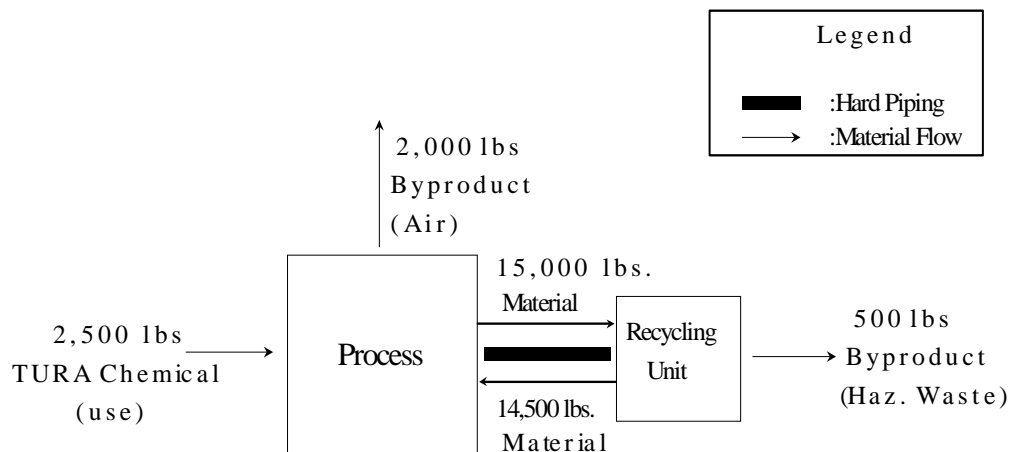
* Whenever detachable pipes are used in conjunction with a recycling unit, a written spill prevention plan must be prepared and kept on file to minimize worker exposure and to prevent spills and leaks when connecting, disconnecting, and operating the recycling unit. This spill prevention plan minimizes any increased risk of worker exposures that may arise from this expanded definition of integral recycling under TURA. TURA filers who do not wish to prepare and keep on file this spill contingency plan should consider the recycling unit (connected via detachable hoses) non-integral under TURA and report accordingly.

INTEGRAL RECYCLING EXAMPLES

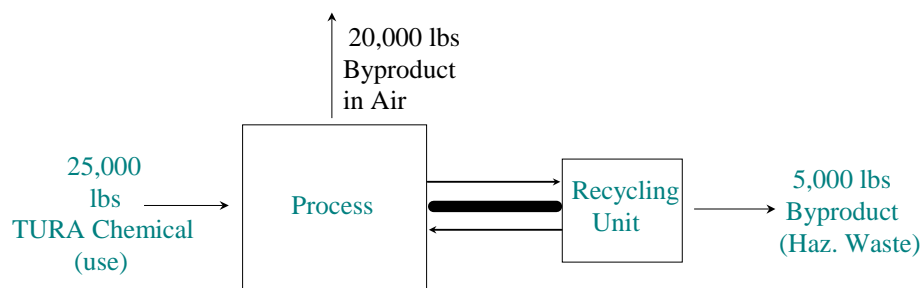
✓ Example: 1

A recycling unit which is hard-piped in the process qualifies as integral. The recycling unit is totally enclosed during operation. (Totally enclosed recycling units are units that have been designed, constructed, and operated to prevent spills, leaks or emissions of hazardous materials to the workplace and environment.)

A. This diagram illustrates the materials accounting and quantities generated each time the reportable chemical is an input to this process. (For this example, it occurs ten times each year.)



B. This diagram shows quantities reported annually for this chemical which are integrally recycled in this process.



Description of example process: As shown in diagram A, ten times a year 2,500 lbs of virgin chemical is fed into the process to supplement the 14,500 lbs of integrally recycled chemical which is reintroduced to the process on the same schedule. While parts are being processed using each of ten batches of chemical, 2,000 lbs of byproduct is released into the air. When each batch of chemical is spent, it is pumped through the integrally connected recycling unit which produces 500 lbs of byproduct as hazardous waste per batch. The quantities in diagram B show the yearly amounts of byproduct produced and material processed. Because the unit is integrally connected the chemical recycled is not reported as an input to the process, and spent chemical piped to the recycling unit is not considered byproduct. If any of the recycled solvent can not be used in the process, and is shipped off-site for reuse without any treatment or recovery, it would be considered byproduct as product and reported in Section 1 item g. of the Form S “Shipped in or as Product.” (See section on Byproduct as Product, p.G-6.)

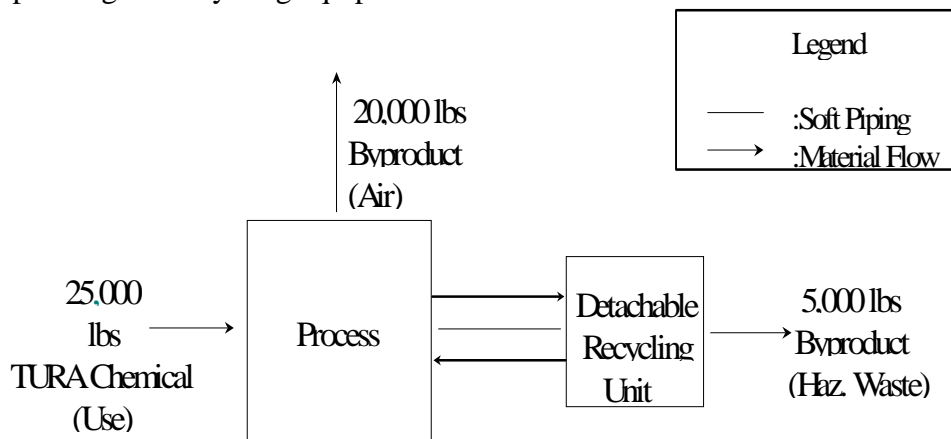
For this example of Integral Recycling, the Form S, Section 1 would be filled out as follows:

c. Manufactured:	0	d. Processed:	0
e. Otherwise Used:	25,000	f. Generated as Byproduct:	25,000
g. Shipped in or as Product:	0*		

** If any integrally recycled material is shipped as product (byproduct as product), item g. would reflect that quantity.*

✓ Example: 2

To qualify as integral recycling, the portable recycling unit must be connected while the recycling unit is in operation via detachable couplings that are appropriate for such use and perform similarly to hard piping. The recycling unit is totally enclosed during operation. A written spill prevention plan must be developed to minimize risk of worker exposure and to prevent spills or leaks when connecting and disconnecting or operating the recycling equipment.



Description of example process: The quantities in the diagram show the yearly amounts of byproduct produced and material processed. Because the unit is integrally connected, the recycled chemical is not reported as an input to the process, and spent chemical piped to the recycling unit is not considered byproduct. If any of the recycled solvent can not be used in the process, and is shipped off-site for reuse without any treatment or recovery, it would be considered byproduct as product and reported in section 1.2g of the Form S “Shipped in or as Product.” (See section on Byproduct as Product, p.G-6.)

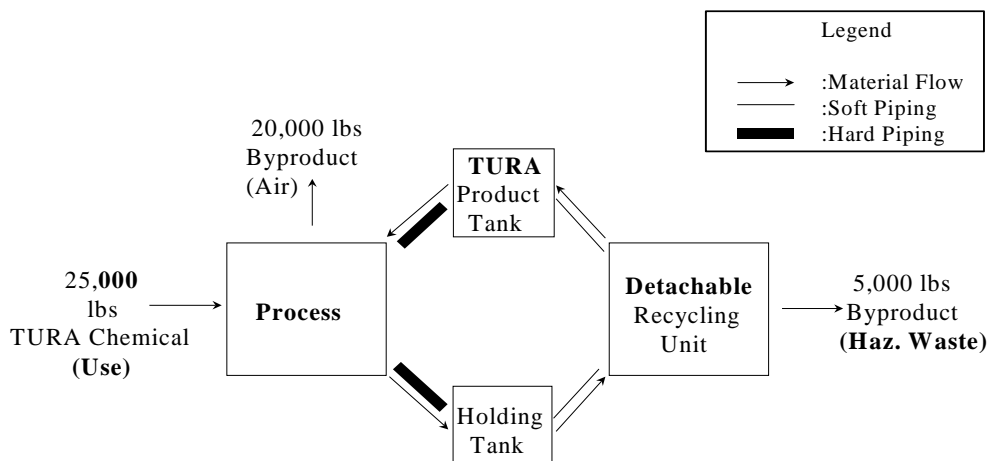
For this example of Integral Recycling, the Form S Section 1 would be filled out as follows:

- | | | | |
|------------------------------|---------------|----------------------------|---------------|
| c. Manufactured: | 0 | d. Processed: | 0 |
| e. Otherwise Used: | 25,000 | f. Generated as Byproduct: | 25,000 |
| g. Shipped in or as Product: | 0* | | |

** If any integrally recycled material is shipped as product (byproduct as product), item g. would reflect that quantity.*

✓ Example: 3

A recycling process which utilizes a holding tank, piped to the process, to store spent chemicals which are then recycled via either a permanent or detachable recycling unit, qualifies as integral. The recycling unit must be connected to the holding tank while the unit is in operation. The unit must also be totally enclosed while in operation (as explained in example 1, p.G-2). A written spill prevention plan must be developed to minimize risk of worker exposure, to prevent spills or leaks when connecting and disconnecting or operating the recycling equipment.



Description of sample process: The quantities in the diagram show the yearly amounts of byproduct produced and material processed. Because the unit is integrally connected, the recycled chemical is not reported as an input to the process and spent chemical piped to the recycling unit, is not considered byproduct. If any of the recycled solvent can not be used in the process, and is shipped off-site for reuse without any treatment or recovery, it would be considered byproduct as product and reported in Section 1 item g. of the Form S “Shipped in or as Product.” (See section on Byproduct as Product, p.G-6.)

For this example of Integral Recycling, the Form S, Section 1 would be filled out as follows:

c. Manufactured:	0	d. Processed:	0
e. Otherwise Used:	25,000	f. Generated as Byproduct:	25,000
g. Shipped in or as Product:	0*		

** If any integrally recycled material is shipped as product (byproduct as product), Section 1 item g. would reflect that quantity.*

BYPRODUCT AS PRODUCT

A byproduct that is product means a byproduct that is used as a raw material without treatment or processing. If a byproduct is treated before it is used as a raw material, then it is not a product. For TURA purposes, byproduct as product should be listed as a product of the production unit. For example, some recycled paints or solvents can be sold to buyers who can use them as they are. While these would not be counted as byproducts, they would need to be counted in the amount of the chemical shipped off-site as product.

BYPRODUCT AS PRODUCT REPORTING UNDER TURA

Chemical amounts being reported as byproduct as product must be listed in the Form S cover sheet in section 4 as a second product for that production unit. Therefore, at least two products will be listed in any production unit that produces byproduct as product.

01

a. Production Unit #

is this production unit IN USE for the reporting year of this submittal?

☐ yes ☐ no

b. Describe the Process:

Degreasing metal parts

c. Describe the Product:

Cleaned metal parts and recycled solvent

Enter up to (four) 4 six-digit NAICS Codes that best describe the Product from this Production Unit:

332312

d. NAICS Code

e. NAICS Code

f. NAICS Code

g. NAICS Code

h. Check the appropriate description for the unit of product:

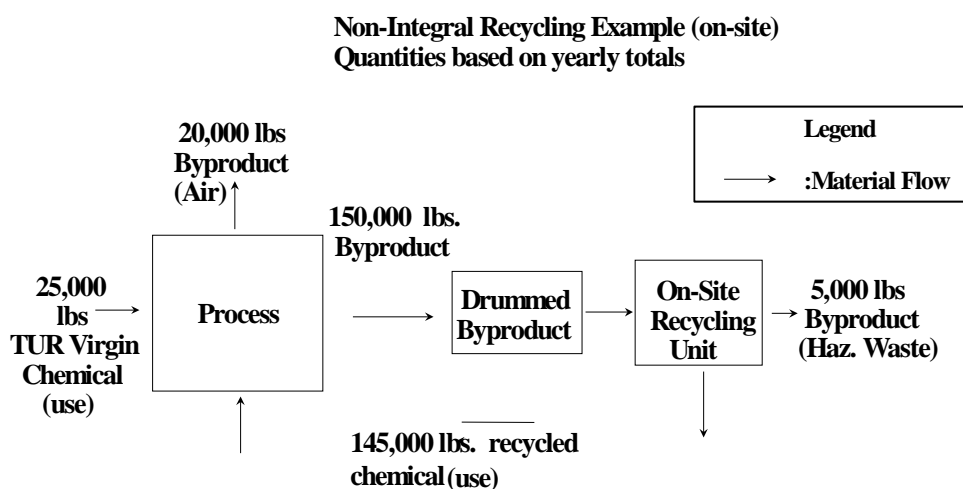
☐ area ☐ dollar ☐ hours ☐ kilowatt ☒ length ☐ N/A ☐ number ☐ volume ☐ weight

NON-INTEGRAL RECYCLING (ON-SITE)

Activities where spent material is removed from the process and transferred into barrels or other containers are not considered integral under this policy. To be considered integral, spent material from the production process must be pumped directly into the recycling unit or into a directly connected holding tank, and then to a directly connected recycling unit.

✓ Example: 4

Non-integral, On-Site Recycling Reporting: Many companies have non-integral recycling operations on-site. Their processes include drumming and transporting the material to a different location in the plant at some point during the operation. Although these recycling processes are not considered “integral recycling,” TURA and this guidance recognize on-site, non-integral recycling as follows: Companies practicing on-site, non-integral recycling are required to count the recycled chemical as byproduct each time it exits the production unit. Additionally, each time the recycled material is re-introduced as an input to the production unit, it should be added to chemical use quantities at the production unit level, but not to the facility-wide use levels. Therefore, any type of on-site recycling is not counted towards facility-wide use of the chemical, and will result in a reduction in the facility-wide total usage number.



Description of Sample Process: Each year, 25,000 lbs of virgin chemical plus 145,000 lbs of recycled chemical are added to the process (inputs). Each year 20,000 lbs of byproduct are released to the air and 150,000 lbs of spent chemical is drummed and brought to the on-site recycling unit. The recycling unit generates 5,000 lbs of hazardous waste. The quantities in the diagram show the yearly amounts of byproduct produced and materials processed. Because this is on-site non-integral recycling, the 145,000 lbs of recycled chemical is not counted towards facility-wide use, but is counted toward chemical use at the production unit level.

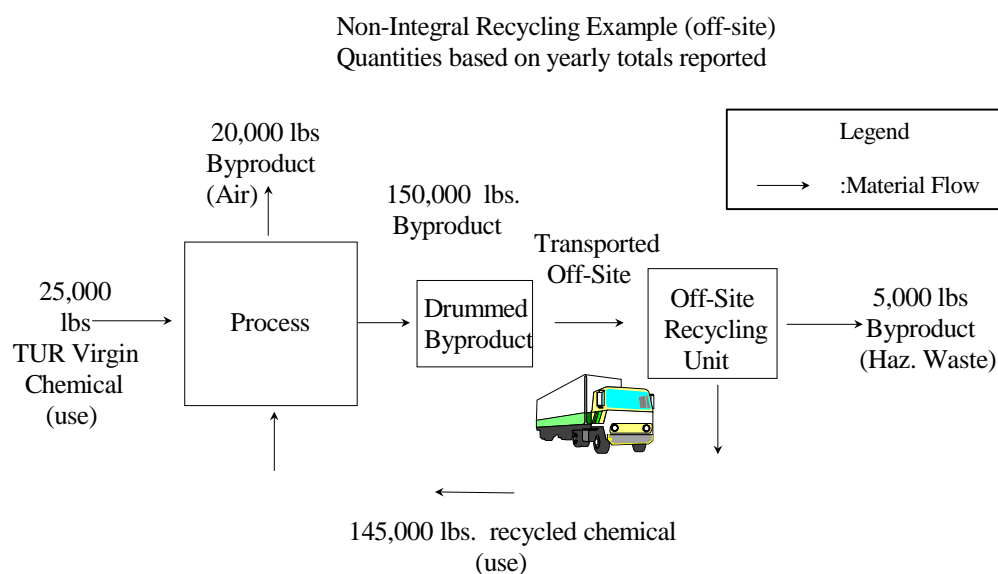
For this example of a company performing Non-Integral On-Site Recycling, the Form S, Section 1, would be filled out as follows:

- | | | | |
|------------------------------|--------|----------------------------|---------|
| c. Manufactured: | 0 | d. Processed: | 0 |
| e. Otherwise Used: | 25,000 | f. Generated as Byproduct: | 175,000 |
| g. Shipped in or as Product: | 0* | | |

This example, when compared to the non-integral off-site recycling example below, demonstrates how facility-wide input numbers are minimized with non-integral, on-site recycling. It should be noted on the Form S, in Section 2, that on-site recycling has affected the materials balance for this chemical.

✓ Example: 5

Non-Integral Off-Site Recycling Reporting: Activities where materials are sent off-site for recycling are not considered integral under this guidance. Materials recycled off-site and re-introduced into the process, must be counted as byproduct and use both at the facility-wide and production unit levels. This can add significantly to the amount of chemical brought on-site and reported as facility-wide chemical use.



Description of Example Process: Each year, 25,000 lbs of virgin solvent plus 145,000 lbs of recycled solvent are added to the process (inputs). Each year, 20,000 lbs of byproduct are released to the air and 150,000 lbs spent chemical is drummed and shipped off-site to a company which recycles spent solvent. This off-site recycling unit generates 5,000 lbs of hazardous waste. The quantities in the diagram show the yearly amounts of byproduct produced and material processed. Because of this off-site non-integral recycling, the recycled chemical, as well as the virgin chemical, must be counted as inputs to the process. Additionally, the spent chemical, as well as the byproduct emitted to the air, must be counted as byproduct. The 5,000 lbs of hazardous waste byproduct is neither generated nor reported by this facility.

For this example of a company performing Non-Integral Off-Site Recycling, the Form S, Section 1, would be filled out as follows:

- | | |
|-----------------------------------|---|
| c. Manufactured: 0 | d. Processed: 0 |
| e. Otherwise Used: 170,000 | f. Generated as Byproduct: 170,000 |
| g. Shipped in or as Product: 0* | |

HAZARDOUS WASTE SPECIFIC REQUIREMENTS

✓ Example 1: Integral Recycling

- The recycling unit is integral to the process, and therefore exempt from 310 CMR 30.000.
- The recycling unit does not need a recycling permit.
- The byproduct generated from the recycling unit is managed as:
 1. Hazardous waste, and as such, counts towards hazardous waste generator status
or
 2. Class A regulated recyclable material (notification “permit” required, 310 CMR 30.212)

✓ Example 2: Integral Recycling with Portable Recycling Unit

- The recycling unit is integral to the process, and therefore exempt from 310 CMR 30.000.
- The recycling unit does not need a recycling permit.
- The byproduct generated from the recycling unit is managed as:
 1. Hazardous waste, and as such, counts towards hazardous waste generator status
or
 2. Class A regulated recyclable material (notification “permit” required, 310 CMR 30.212)

✓ Example 3: Integral Recycling Incorporating Holding Tank

- The holding tank is regulated as a hazardous waste accumulation container, subject to generator standards for tanks (310 CMR 30.205(19)).
- The facility’s generator status calculation includes the amount fed into the holding tank.
- The recycling unit is regulated as a hazardous waste recycling unit, and therefore needs a Class A or Class B (4) recycling permit (310 CMR 30.212 or 30.213(4))

✓ Example 4: On-Site Non-Integral Recycling

- Hazardous waste regulations apply to the drummed byproduct.
 - Rate of generation includes the amount of byproduct drummed.
 - Hazardous waste recycling permit is required.
-

✓ Example 5: Off-Site Non-Integral Recycling

- Hazardous waste regulations apply to the drummed byproduct.
 - Rate of generation includes the amount of byproduct drummed.
 - Hazardous waste recycling permit is required for the generator and the recycling facility.
-

ASSOCIATED HAZARDOUS WASTE ISSUES**GENERAL COMPLIANCE ISSUES****RECYCLING VS. TREATMENT**

In order for an activity to qualify as “integral recycling,” the material must be recycled or reused, not treated. From the TURA perspective, this is important because the statutory language refers to “recycling, reuse, or extended use of toxics...” and also because the statutory definition of toxics use reduction specifically excludes anything that is, or that promotes, “end-of-pipe treatment.” From the hazardous waste perspective, this is important because treatment activities require licenses under both M.G.L.c. 21C and RCRA.

In order to be consistent with RCRA, the following criteria apply when determining whether an activity constitutes recycling: *

- ☐ Is the secondary material as effective as the raw material it replaces?
- ☐ Can the secondary material be fed directly into the process or is reclamation required?
- ☐ How much of the secondary material is used as compared to the analogous raw material?
- ☐ Is the secondary material managed in a manner consistent with the raw material?
- ☐ Are the toxic constituents actually necessary to the product or are they just “along for the ride”

*These criteria are taken from the Federal Register (FR), 53 FR at 522, 52 FR at 17013 and 50 FR at 638.

INHERENTLY WASTE-LIKE MATERIAL

The preceding guidance does not apply to those hazardous wastes listed as F020, F021, F022, F023, F026, F028, since those hazardous wastes are inherently waste-like and must be managed as a hazardous waste, pursuant to the definition of hazardous waste contained at 310 CMR 30.000. Furthermore, those inherently waste-like wastestreams cannot be managed as regulated recyclable materials, since there is no exemption provided in 310 CMR 30.200 for those materials. However, there may be circumstances in which the “treatment that is integral...” exemption, cited in 310 CMR 30.000, might apply and in fact, exempt these wastes from hazardous waste regulations.

STATE-ONLY VS. EPA

Concerning other hazardous waste regulatory compliance issues, a TURA filer must keep in mind that since some hazardous waste activities are regulated on a state-only basis, for these wastes, MassDEP can exert a measure of discretion in policy-making. However, other activities are regulated by both MassDEP and EPA, and in these circumstances, MassDEP’s discretion is generally more limited to federal rulings. For example:

- Characteristic sludges and byproducts being reclaimed are regulated by MassDEP only, and can be managed as hazardous waste, or if being reclaimed, they can be managed as a regulated recyclable material.
- Listed sludges and byproduct being reclaimed are regulated by both EPA and MassDEP.
- Spent materials being reclaimed on-site are regulated by both EPA and MassDEP.

OTHER STATE AND FEDERAL LAWS OR REGULATIONS

This guidance does not relieve those responsible for these “recycling activities” from regulatory responsibility contained in any other applicable state or federal laws or regulations. It is incumbent upon the responsible parties to conduct the recycling activities at all times in a manner that is protective of public health, safety, and the environment. To that end, MassDEP reserves its rights pursuant M.G.L. c. 21C, and M.G.L. c. 21I, to review and evaluate any such activity, on a case-by-case basis, and to require persons or entities managing these activities to comply fully with these laws.

Appendix H

GUIDANCE FOR USING TURA PRODUCTION PROCESS CODES

This appendix explains how to use the new standardized codes to describe the production processes included in your production unit(s).

Under TURA, the "production unit" [defined as the process(es) used to produce a product] is the basic unit for reporting and planning. In its regulations, MassDEP chose to give firms flexibility over how they designate their production units. The rationale was that firms are better suited to determine meaningful product and process combinations than are the regulators.

In TURA reporting, firms list their production units (as they chose to define them) in the Form S Cover Sheet -- identifying the products using one or more six-digit NAICS codes and describing the processes in their own words. MassDEP amended the TURA regulations (310 CMR 50.30) to incorporate reporting on production processes using generic codes.

This Appendix describes how and why the codes were developed and then explains how to use them to report information on the Form S Cover Sheet. (See page H-9 for the annotated list of the codes.)

Do the codes require that a firm make changes in the way it defined its production unit?

No. The coding system is intended to maintain the traditional flexibility firms have been given in grouping products and processes into production units. No change in how firms define their production units is required. The codes are generic enough that most firms should only need a few codes to describe their processes.

Why were these codes developed?

The standardized process codes were developed, in large part, because of differences in the way similar processes were described by different companies. MassDEP wants to retain the flexibility given to firms in designating production units. We also need to identify, however, the similarities and differences in processes as part of potentially developing user segment regulations.

The coding system is intended to be used to group the 800+ processes reported each year into broad categories based on similarities and differences in such things as: 1) processes, 2) chemical use, 3) byproduct production, and 4) opportunities for TUR. Alpha-numeric codes have been assigned to each generic category.

✓ **Example 1: Off-Site Non-Integral Recycling**

Each year, a number of firms report deionization of water as a production unit, although the way they describe this process varies. Some refer to it as "D/I Unit," others report only the "regeneration of resins for deionization," etc.

These firms represent a variety of industries, including paper making, pharmaceuticals, electroplating, and co-generation of steam. With the coding system, these firms would uniformly report HH-01 for deionizing water. Once this code is entered into the computer system, MassDEP can run a report, for example, to determine what TUR techniques have been adopted. Any promising developments in one industry can be researched for potential applicability in other industries.

MassDEP has, in fact, seen examples where technology transfers look promising. One TURA filer, primarily a chemical manufacturer, uses electroplated copper powders or flakes as a component in its products. That firm has developed an electroplating process that eliminates the need to use cyanide compounds. Although the process is patented, its development in one industry suggests the potential for technology transfer to traditional electroplating firms.

HOW TO USE THE PRODUCTION PROCESS CODES

Shown below is an excerpt from the **Form S Cover Sheet** showing the top half of Section 4, and calls for identifying the production unit by number, describing the processes involved, describing the product etc.

Section 4: Facility-Wide Listing of Production Units

A PRODUCTION UNIT is best thought of as the combination of the process (or activities) used to produce a product or service and the product or service. In this section, please identify the PRODUCTION UNITS at the facility, then use the production unit number to report on chemical use in the Form S.

If there has been a substantial change in a PRODUCTION UNIT from the previous reporting year, the PRODUCTION UNIT must be given a new, unique number.

a. Production Unit #

b. Describe the Process:

is this production unit IN USE for the reporting year of this submittal?

☐ yes ☐ no

c. Describe the Product:

Enter up to four (4) six-digit NAICS Codes that best describe the Product from this Production Unit:

d. NAICS Code

e. NAICS Code

f. NAICS Code

g. NAICS Code

h. Check the appropriate description for the unit of product:

☐ area ☐ dollar ☐ hours ☐ kilowatt ☐ length ☐ N/A ☐ number ☐ volume ☐ weight

Where the form calls for information concerning the process, a firm should describe any process step that involves a TURA-reported chemical as an input, output or throughput.

A firm need NOT describe a process step that does not involve a TURA chemical. For example, a juice manufacturer would not have to describe mixing as a process step unless a TURA chemical being reported this year was involved. Another manufacturer that mixed food grade acetic acid to produce salad dressing would report the mixing step.

MassDEP does not expect extremely detailed descriptions of process steps and in the past most firms have described their processes in sufficient detail. More specific descriptions, however, will help MassDEP identify similarities and differences in the production processes of firms.

✓ Example 2: Off-Site Non-Integral Recycling

Instead of describing process as "household appliance manufacturing," it would be more helpful if the firm reported "spray coating and assembly of household appliances."

After describing the process, a firm describes the product and enters the six-digit NAICS code(s) that best describes that product. Then the unit of product is described in narrative fashion. (See page 17 of the reporting instructions for more detailed information on completing the first part of Section 4.)

Using the standardized process codes


Shown below is that part of Section 4 that calls for firms to enter the appropriate standardized process codes.


Production Process Step Information For This Production Unit

- i. Enter the production process codes to identify the process steps that involve TURA-reportable chemicals as an input, output or throughput. (See the reporting guidance document for the list of production process codes and instructions on when a given code needs to be listed.)

1. _____ Process Code	2. _____ Process Code	3. _____ Process Code	4. _____ Process Code
5. _____ Process Code	6. _____ Process Code	7. _____ Process Code	8. _____ Process Code
9. _____ Process Code	10. _____ Process Code	11. _____ Process Code	12. _____ Process Code
13. _____ Process Code	14. _____ Process Code	15. _____ Process Code	16. _____ Process Code
17. _____ Process Code	18. _____ Process Code	19. _____ Process Code	20. _____ Process Code
21. _____ Process Code	22. _____ Process Code	23. _____ Process Code	24. _____ Process Code

To complete this part of the cover sheet, firms need to determine which production process code(s) best describe their activities. Note that the production process codes (which begin on page H-9) have been divided into three groups.

 **Note:** There are some firms that may have to review the codes in all the groups. This might occur, for example, with a textile manufacturer that not only dyes fabric but also formulates the dye using a chemical reaction.

 **Note:** The examples and cross - references provided by MassDEP are based upon the agency's best understanding of production processes as described in TURA reports submitted in previous years.

With the first two groups, a distinction has been drawn between production processes generally used to provide services or make (or process) objects (Group 1) and those processes typically associated with the manufacture of chemicals (Group 2).

Group 1 contains processes that typically are used by firms that primarily make or process objects and goods (or provide services).

Group 2 is designed primarily for use by firms that manufacture or process chemicals. (Mainly firms in SIC code 28, 29, 30, some firms in 33 who recover metals, and chemical distributors.)

Group 3 lists miscellaneous processes that might be used by any firm, regardless of whether services are provided, goods are made, or chemicals produced.

DETERMINING WHICH PROCESS GROUP LIST TO USE

If your firm primarily makes or processes objects (or provides services) look first at the codes in Groups 1 and 3. If there are codes on these lists that adequately describe your processes, you need not evaluate or report any of the chemical process codes in Group 2.¹ Similarly, a firm that primarily manufactures or processes chemicals should first look at Groups 2 and 3 for applicable codes.

If your firm makes and processes objects (or provides services) and there is no code in Group 1 or Group 3 that adequately describes your process, you should then check the Group 2 codes. There may be a generic chemical process code that you can use. If you have questions, you can call MassDEP at (617) 292-5711.

For many firms, using the process code lists should be straightforward. MassDEP does recognize, however, that questions and issues of interpretation of the codes may arise. To assist TURA reporters, MassDEP has included examples or other comments in the attached list of codes.

The examples and cross-references are intended **ONLY** as a guide; each filer is encouraged to use its own best judgment concerning which codes to use. There are, however, some general principles for using the production process codes.

¹ Many process steps in **Group 1** are themselves chemical reactions. For example, electroplating is an oxidation/reduction reaction. An electroplating firm, however, would enter one of the codes for electroplating (AA-12 or AA-13, for example). The firm would NOT enter the **Group 2** code (EE-07) for oxidation/reduction reactions.

1. Each generic process code refers to the specific steps (or unit operations) normally associated with that process.

✓ **Example: 3**

A textile manufacturer reports "acid aging," not as a bleaching process but as a step by which dyes are chemically activated. That manufacturer would use the code AA-22 Pigmentation and Dyeing for "acid aging" and all other steps normally associated with dyeing.

2. If a number of process steps can be categorized by one code, that code should be entered **ONLY** once for a given production unit.

✓ **Example: 4**

A tool manufacturer cuts, drills, and turns metal to produce hand tools. Generally all those processes can be classed as BB-05 Removal by Mechanical Means (Gross Mass Removal). The code BB-05 would be entered once for all those operations if they all are included in a given production unit. (If the firm had a second production unit with the same three processes, BB-05 would be reported for that production unit as well.)

3. Use all the codes that apply.

✓ **Example: 5**

Electroplating as a generic process includes a product cleaning step. The appropriate code for electroplating should be reported, as well as the appropriate product cleaning code.

4. Using the "not otherwise specified" codes.

The production processes are generally placed in subgroups, such as the "Product Molding and Forming" subgroup which includes CC-01 (Casting and Molding), CC-02 (Extrusion and Drawing) CC-03 (Forging), etc.

In some groups, the last code contains the abbreviation N.O.S. for "not otherwise specified." This code should be used for processes that cannot be categorized into one of the codes above it in the subgroup.

What do I do if a process is not adequately described by a listed code?

After looking at Group 1 and 3 codes, a firm that makes or processes objects should next look at the Group 2 chemical reaction codes. If one of those codes apply, use it. If no code truly seems to apply, a firm should use its best judgment to determine which coded process is "most like" the activity being reported.

✓ Example: 6

In the plastics industry there is a relatively new process for forming products known as "pultrusion." With this process, heated plastic is pulled through a die that gives it a specific shape. Assume no existing code is applicable.

Looking over the **Group 1** list, however, the annotations indicate that CC-02: Extrusion and Drawing are processes that give a specific shape to a product by forcing it through a die. "Pultrusion" could be considered "most like" extrusion because a die is used to give shape to a product, even though the plastic is pulled, not pushed.

✓ Example: 7

A food manufacturer uses a TURA-reportable chemical to "fumigate" its facility. Assume that there is no code that covers this process. There are, however, two processes that are similar: FF-04: Equipment Cleaning (Solvent-Based) (includes sanitizing) and HH-02 Process Water Treatment – Biocides and Disinfection (which includes chlorination).

This firm would have to use its best judgment as to which code "fumigation" is most like. If the fumigant used is a solvent, the equipment cleaning code could be viewed as the most applicable. As this example illustrates, there is not necessarily any one "right" answer for which process code is most like "fumigation."

Reporting on the chemicals associated with a production unit

Each production unit may be associated with one or more chemicals. In the last part of section 4, firms list the particular chemical(s) that are associated with the given production unit. There is a space for the chemical name and the chemical abstract service (CAS) number. (If there is no CAS number, leave that line blank.) The form then asks whether the chemical listed is associated with all the process steps coded above. If so, check "YES" and no process codes need to be entered for the chemical. If

the chemical is associated with some but not all of the processes, the appropriate process codes should be listed.

To illustrate Section 4 reporting, consider a firm that makes jewelry which reports two chemicals: trichloroethane (used to clean jewelry) and ammonia (used in etching).

The cleaning step would be BB-01: Product Cleaning - Solvent-Based, and the etching process would be BB-04: Removal by Chemical Means. This firm would report as shown below.

✓ Example 8: Production Units

01

a. Production Unit #

is this production unit IN USE for the reporting year of this submittal?

☐ yes ☐ no

b. Describe the Process:

Cleaning and etching and jewelry

c. Describe the Product:

jewelry

Enter up to four (4) six-digit NAICS Codes that best describe the Product from this Production Unit:

339914

d. NAICS Code

e. NAICS Code

f. NAICS Code

g. NAICS Code

h. Check the appropriate description for the unit of product:

☐ area ☐ dollar ☐ hours ☐ kilowatt ☐ length ☐ N/A ☒ number ☐ volume ☐ weight

✓ Example 8: Production Units (Con't)

Production Process Step Information For This Production Unit

i. Enter the production process codes to identify the process steps that involve TURA-reportable chemicals as an input, output or throughput. (See the reporting guidance document for the list of production process codes and instructions on when a given code needs to be listed.)

1. <u>BB-01</u> Process Code	2. <u>BB-04</u> Process Code	3. <u> </u> Process Code	4. <u> </u> Process Code
5. <u> </u> Process Code	6. <u> </u> Process Code	7. <u> </u> Process Code	8. <u> </u> Process Code
9. <u> </u> Process Code	10. <u> </u> Process Code	11. <u> </u> Process Code	12. <u> </u> Process Code
13. <u> </u> Process Code	14. <u> </u> Process Code	15. <u> </u> Process Code	16. <u> </u> Process Code
17. <u> </u> Process Code	18. <u> </u> Process Code	19. <u> </u> Process Code	20. <u> </u> Process Code
21. <u> </u> Process Code	22. <u> </u> Process Code	23. <u> </u> Process Code	24. <u> </u> Process Code

List the TURA-reportable chemicals associated with this production unit. If a chemical is associated with ALL the process steps entered in i. above, check ALL. If a chemical is associated with some but not all of the process steps, check the numbers that correspond to the process codes entered in i. above (i.e. box 1 below corresponds to the process code entered in i.1).

j. Production unit number: 01
Prod. Unit #

k. TURA 79016 TRICHLOROETHYLENE
Chemica CAS # Chemical Name

Check "All" or the numbers that correspond to the process codes entered in i. All. ☐

1. <input checked="" type="checkbox"/>	2. <input type="checkbox"/>	3. <input type="checkbox"/>	4. <input type="checkbox"/>	5. <input type="checkbox"/>	6. <input type="checkbox"/>	7. <input type="checkbox"/>	8. <input type="checkbox"/>	9. <input type="checkbox"/>	10. <input type="checkbox"/>	11. <input type="checkbox"/>	12. <input type="checkbox"/>
13. <input type="checkbox"/>	14. <input type="checkbox"/>	15. <input type="checkbox"/>	16. <input type="checkbox"/>	17. <input type="checkbox"/>	18. <input type="checkbox"/>	19. <input type="checkbox"/>	20. <input type="checkbox"/>	21. <input type="checkbox"/>	22. <input type="checkbox"/>	23. <input type="checkbox"/>	24. <input type="checkbox"/>

l. TURA 7664417 AMMONIA
Chemica CAS # Chemical Name

Check "All" or the numbers that correspond to the process codes entered in i. All. ☐

1. <input type="checkbox"/>	2. <input checked="" type="checkbox"/>	3. <input type="checkbox"/>	4. <input type="checkbox"/>	5. <input type="checkbox"/>	6. <input type="checkbox"/>	7. <input type="checkbox"/>	8. <input type="checkbox"/>	9. <input type="checkbox"/>	10. <input type="checkbox"/>	11. <input type="checkbox"/>	12. <input type="checkbox"/>
13. <input type="checkbox"/>	14. <input type="checkbox"/>	15. <input type="checkbox"/>	16. <input type="checkbox"/>	17. <input type="checkbox"/>	18. <input type="checkbox"/>	19. <input type="checkbox"/>	20. <input type="checkbox"/>	21. <input type="checkbox"/>	22. <input type="checkbox"/>	23. <input type="checkbox"/>	24. <input type="checkbox"/>

TURA PRODUCTION PROCESS CODES

Group 1: Processes Typically Used by Firms that Make and Process Objects or Provide Services

General Guide to Group 1 Process Codes: Codes with the prefix "AA" generally refer to processes that add coatings or other matter to a product. The "BB" codes refer to processes that remove matter from a product. The "CC" codes represent processes by which products are given form, shape, physical dimension or other physical properties.

PROCESS and PROCESS CODE	COMMENTS and EXAMPLES
Coating & Painting Processes	Note: firms that use extrusion to coat objects should use the Extruding/Drawing (CC-02)
AA-01: Dip, Flow & Curtain Coating	Example: processes where excess coating material is allowed to flow or drain off
AA-02: Spray Coating	Example: applying coating as a fine mist or spray Note, however, electrostatic spray coating is included under AA-04 rather than this code
AA-03: Knife/Spread/Roll Coating	Example: using a roller, doctor knife or brush to apply coating
AA-04: Electrostatic Coating Methods	Examples: electrostatic spray coating, electrostatic powder coating, electrocoating
Printing Processes	
AA-05: Letterpress & Flexographic	Example: ink applied to a raised surface of printing plate
AA-06: Lithographic	Example: ink adheres to hydrophobic area/fountain solution adheres to hydrophilic area Use this code to describe the lithographic processes used in semiconductor and printed circuit board manufacturing
AA-07: Gravure	Example: ink remains in recessed areas of the plate Includes gravure coating as well as printing

AA-08: Screen Printing	Example: ink forced through open or porous areas of screen or plate
AA-09: Pad Printing	Example: use of a silicone pad to transfer ink from etched/engraved plate to work piece
AA-10: Printing Using Carrier Films or Foils	Examples: hot stamping, in-mold decorating of plastics using films or foils
AA-11: Jet Printing	Example: use of jet(s) to apply text or a pattern
Plating Processes	
AA-12: Electroplating (Barrel) AA-13: Electroplating (Rack)	
AA-14: Electroless (Barrel) AA-15: Electroless (Rack)	
AA-16: Mechanical Plating	Example: coating a substrate by tumbling or other mechanical means, e.g., using metal powders
AA-17: Hot Dip Coating (of metal)	Examples: galvanizing, hot tin dipping
Processes that penetrate surface layer	
AA-18: Anodizing, Conversion Coating and Case Hardening (through diffusion)	<p>Examples: anodizing, black oxide conversion, bright dipping, chromating, passivating, phosphating</p> <p>Includes case hardening through diffusion of substances in the surface layer of metal (e.g., nitriding, nitrocarburizing)</p> <p>For case hardening through the application of energy/heat, see CC-04</p>
AA-19: Deposition	Examples: vacuum metallizing, sputtering, metal (flame) spraying
Processes that add material throughout the mass of a product	
AA-20: Pigmentation/Dyeing	
AA-21: Infiltration/Saturation	Example: kraft paper saturation
AA-22: Impregnation/Implantation	Examples: (from semiconductor industry) - doping (through diffusion), ion implantation, vacuum impregnation

Processes that remove material from product	
Product or Parts Cleaning	<p>Removing dirt, grease and other foreign matter from product</p> <p>For drying that occurs as part of cleaning use BB-09</p>
BB-01: Solvent-Based	
BB-02: Aqueous	Includes rinsing
BB-03: Mechanical	Examples: sand blasting, cleaning with saw dust
Removal of Mass from Substrate (excluding Cleaning)	
BB-04: Removal by Chemical Means	Includes bleaching (in textiles), chemical stripping, electropolishing, etching, pickling (of metals)
BB-05: Removal by Mechanical Means (<u>Gross Mass</u> Removal)	Includes processes that remove pieces or chips from product; can include cutting, drilling, lathing, turning
BB-06: Removal by Mechanical Means (<u>Fine Mass</u> Removal/Size Reduction)	Includes removal methods that produce fine particles/dust; can include abrasive blasting, grinding, milling, polishing (processes that smooth the surface without removing material should be reported as CC-06)
BB-07: Removal by Chemical and Mechanical Means	Example: (in paper making) pulping where mechanical and chemical processes are used
BB-08: Removal by Application of Heat or Energy	Example: laser cutting
BB-09: Drying NOS	Drying not otherwise specified; includes chemical drying
Product Molding/Forming	
CC-01: Casting/Molding	Includes all forms of casting, injection molding, blow molding and similar processes
CC-02: Extrusion/Drawing	<p>Includes processes by which a product is given shape by pushing material through a die or similar device</p> <p>Firms that coat products by extrusion should use this code</p>

CC-03: Forging	
CC-04: Heat Treating NOS	Examples: controlled heating of metal to increase or decrease hardness, improve machinability, relieve stresses etc. (annealing, austempering, tempering and case hardening)
CC-05: Quenching	Example: rapid cooling after heat treating through contact with liquids, gases or solids
CC-06: Forming by Mechanical Means NOS	Forming by Mechanical Means not otherwise specified Examples: bending, cold heading, embossing, rolling
Bonding/Joining	
CC-07: Application of Adhesives	
CC-08: Soldering/Brazing	
CC-09: Welding	
CC-10: Sintering/Powder Metallurgy	
CC-11: Joining through Application of Heat/Energy NOS	Joining through Application of Heat/Energy not otherwise specified
CC-12: Joining through Chemical Means NOS	Joining through Chemical Means not otherwise specified
CC-13: Joining through Mechanical Means NOS	Joining through Mechanical Means not otherwise specified Examples: cladding

TURA PRODUCTION PROCESS CODES

Group 2: Production Processes Typically Used by Firms that Manufacture and Process Chemicals

PROCESS and PROCESS CODE	COMMENTS and EXAMPLES
SEPARATION/REFINING	
DD-01: Centrifuge/Filtration	
DD-02: Distillation	
DD-03: Drying	
DD-04: Extraction	
DD-05: Precipitation	
DD-06: Refining/Purification	
DD-07: Smelting	
CHEMICAL REACTIONS	
EE-01: Acetalization	
EE-02: Condensation	
EE-03: Curing, Vulcanizing, Cross Linking	
EE-04: Dehydrogenation	
EE-05: Esterification	
EE-06: Hydrogenation	
EE-07: Oxidation/Reduction	
EE-08: pH Adjust	
EE-09: Polymerization	
EE-10: Substitution Reactions	Includes halogenization and chlorination
EE-11: Chemical Reactions NOS	Chemical Reactions not otherwise specified

TURA PRODUCTION PROCESS CODES

Group 3: Miscellaneous Processes that could be used by any firm

PROCESS and PROCESS CODE	COMMENTS and EXAMPLES
Production Equipment Cleaning	Examples: cleaning of vessels, process lines, printing plates, such devices as spray guns. Also includes descaling of boilers NOTE: Equipment cleaning includes SANITIZING
FF-01: Solvent-Based	
FF-02: Aqueous	Example: use of caustic solutions to clean production equipment
FF-03: Mechanical	Example: use of wiper blades, squeegees
Materials Storage/Handling	
GG-01: Blending, Mixing, Compounding	
GG-02: Particle Size Reduction	Example: grinding mills
GG-03: Packaging/Filling	Examples: bottling liquid products, repackaging
GG-04: Materials Storage/Handling NOS	Materials Storage Handling not otherwise specified Use for storage and handling processes that generate losses such as spills or evaporative losses
Treatment of Process Water	
HH-01: Deionization, Demineralization	Examples: deionization, water softening, including associated process like regeneration of deionization resins
HH-02: Use of Biocides/Disinfection	Examples: water chlorination, use of algaecides in cooling towers
HH-03: pH Control of Process Water NOS	pH Control of Process Water (including water in boilers), not otherwise specified
Refrigeration/Temperature Control	
II-01: Refrigeration	
II-02: Heat Exchange Unit	
II-03: Contact Cooling NOS	Contact Cooling not otherwise specified Do not use for quenching. Quenching is CC-05

II-04: Noncontact Cooling NOS	Noncontact Cooling not otherwise specified
Power Generation	
JJ-01: Production of Electricity, Steam, Facility Heat	<p>Applies to processes producing electricity, steam or heat through combustion, includes co-generation</p> <p>Note: use an FF code for equipment cleaning associated with power production and a HH code for treatment of cooling or boiler water</p>

TURA PRODUCTION PROCESS CODES: Alphabetized List of Group 1 and 3 Processes (cross-referenced to recommended codes)

MassDEP has prepared the following alphabetical listing of some of the more commonly reported production processes with cross-references to the recommended codes in pp. H-17 thru H-27. This appendix explains how to use generic codes to report on production processes in the Form S Cover Sheet. The alphabetical list covers selected processes from Groups 1 and 3 of the codes in pp. H-17 thru H-27.²

(Firms that are primarily in the chemical manufacturing NAICS codes should also refer to the Group 2 codes on page H-14. The processes associated with chemical manufacturing are not included in this alphabetical list.)

Pages H-17 thru H-27 should also be consulted to confirm the applicability of a code. While the appendix and this list are intended to provide guidance, each filer is encouraged to use his or her best judgment concerning which code(s) adequately describes its processes.

IMPORTANT NOTE ON THE "MOST LIKE" AND "NOT OTHERWISE SPECIFIED" CODING:

On pages H-17 thru H-27, the codes are divided into subgroups, such as CC-01 through CC-06 for the product molding and forming codes. Some of the subgroups contain one or more codes containing the abbreviation "NOS" for "not otherwise specified."

Each NOS code is a default code for its group. For example, CC-06 (Forming by Mechanical Means NOS) should be used for any mechanical product forming process other than those specifically-named in its group (e.g., casting, molding, extrusion, etc.) The use of the "most like" coding method (described on p. H-7) should only be used as a last resort, i.e., if there is no applicable code, NOS or otherwise.

² In pp. H-17 thru H-27, the codes are divided into three groups: Group 1 lists processes typically used by firms that primarily make or process objects (or provide services). Group 2 lists processes typically used by firms that are primarily in the chemical manufacturing SIC codes. Group 3 lists miscellaneous processes that might be used by any firm regardless of whether objects or chemicals are made/processed (or services provided).

ALPHABETICAL LISTING OF PRODUCTION PROCESSES

<u>Process Step</u>	<u>Cross-Reference / Comment</u>
abrasive blasting	<i>see codes listed below under "removal of mass from substrate"</i>
acid aging	see <u>AA-20</u> (Pigmentation/Dyeing), for acid aging as a step in dyeing
annealing	see <u>CC-04</u> (Heat Treating NOS)
anodizing	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
application of adhesives	see <u>CC-07</u> (Application of Adhesives - Bonding/Joining)
aqueous-based cleaning	see <u>FF-02</u> (Aqueous Cleaning of Production Equipment) of production equipment
aqueous-based cleaning	see <u>BB-02</u> (Aqueous Cleaning of Product or Parts) of work product
austempering	see <u>CC-04</u> (Heat Treating NOS)
bending	see <u>CC-06</u> (Forming by Mechanical Means NOS)
black oxide	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening conversion coating [through diffusion])
blanking	<i>see codes listed below under "removal of mass from substrate"</i>
bleaching	see <u>BB-04</u> (Removal by Chemical Means)
blending	see <u>GG-01</u> (Blending, Mixing, Compounding)
blow molding	see <u>CC-01</u> (Casting/Molding)
bonding/joining	see as appropriate: <u>CC-07</u> (Application of Adhesives) <u>CC-08</u> (Soldering/Brazing) <u>CC-09</u> (Welding) <u>CC-10</u> (Sintering/Powder Metallurgy) <u>CC-11</u> (Joining through Application of Heat/Energy NOS) <u>CC-12</u> (Joining through Chemical Means NOS) <u>CC-13</u> (Joining through Mechanical Means NOS)

boring	<i>see codes listed below under "removal of mass from substrate"</i>
bottling liquid products	see <u>GG-03</u> (Packaging/Filling)
brazing	see <u>CC-08</u> (Soldering/Brazing)
bright dipping	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion]) if bright dipping is intended to alter the chemical structure of the workpiece's surface see <u>BB-04</u> (Removal by Chemical Means) if bright dipping is intended to remove mass from the workpiece
broaching	<i>see codes listed below under "removal of mass from substrate"</i>
brush-on coating	see <u>AA-03</u> (Knife/Spread/Roll Coating)
buffing	see as appropriate: <u>CC-06</u> (Forming by Mechanical Means NOS), if the process is <u>not</u> intended to remove material from the work piece <i>codes listed below under "removal of mass from substrate," if the process is intended to remove material from the work piece</i>
burnishing	see as appropriate: <u>CC-06</u> (Forming by Mechanical Means NOS), if the process is <u>not</u> intended to remove material from the work piece <i>codes listed below under "removal of mass from substrate," if the process is intended to remove material from the work piece</i>
calendering	see <u>CC-06</u> (Forming by Mechanical Means NOS)
case hardening	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion]), includes processes such as nitriding
case hardening by heat treating	see <u>CC-04</u> (Heat Treating NOS)

casting	see <u>CC-01</u> (Casting/Molding)
chemical drying	see <u>BB-09</u> (Drying NOS), if chemical drying refers, for example, to the use solvents for drying a work product see <u>DD-03</u> (Drying) for chemical manufacturers that dry chemicals
chemical stripping	see <u>BB-04</u> (Removal by Chemical
chromating	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
cladding	see <u>CC-13</u> (Joining through Mechanical Means (NOS) leaning of production equipment see as appropriate: <u>FF-01</u> (Solvent-Based Cleaning of Production Equipment) <u>FF-02</u> (Aqueous Cleaning of Production Equipment) <u>FF-03</u> (Mechanical Cleaning of Production Equipment) cleaning of work product see as appropriate: <u>BB-01</u> (Solvent-Based Cleaning of Product or Parts) <u>BB-02</u> (Aqueous Cleaning of Product or Parts) <u>BB-03</u> (Mechanical Cleaning of Product or Parts)
co-extrusion	see <u>CC-02</u> (Extrusion/Drawing)
co-generation	see <u>JJ-01</u> (Production of Electricity, Steam, Facility Heat)
cold heading	see <u>CC-06</u> (Forming by Mechanical Means NOS)
compounding	see <u>GG-01</u> (Blending, Mixing, Compounding
contact cooling	see <u>II-03</u> (Contact Cooling NOS) or quenching, however, use CC-05 (Quenching)
conversion coating	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
conveyorized degreasing	<i>see codes listed above under "cleaning of work product"</i>
crystal growth	see <u>AA-19</u> (Deposition)
curtain coating	see <u>AA-01</u> (Dip, Flow & Curtain Coating)
cutting	<i>see codes listed below under "removal of mass from substrate"</i>


deburring	<i>see codes listed below under "removal of mass from substrate"</i>
degreasing	<i>see codes listed above under "cleaning of work product"</i>
deionization	see <u>HH-01</u> (Deionization, Demineralization), includes the regeneration of deionization resins (of process water)
demineralization	see <u>HH-01</u> (Deionization, Demineralization)
deposition	see <u>AA-19</u> (Deposition) use this code for processes that in deposit thin films (usually of metal) and for crystal growth (includes metal [flame] spraying, sputtering, vacuum metallizing)
descaling of boilers	<i>see codes listed above under "cleaning of production equipment"</i>
descaling of work product	<i>see codes listed below under "removal of mass from substrate"</i>
desmutting	<i>see codes listed below under "removal of mass from substrate"</i>
dip coating	see <u>AA-01</u> (Dip, Flow & Curtain Coating)
disinfection	see <u>HH-02</u> (Treatment of Process Water: Use of of process water Biocides/Disinfection)
doping (through diffusion)	see <u>AA-22</u> (Impregnation/Implantation)
drawing	see <u>CC-02</u> (Extrusion/Drawing)
drilling	<i>see codes listed below under "removal of mass from substrate"</i>
dry cleaning (of clothes)	<i>see codes listed above under "cleaning of work product"</i>
drying (of work product)	see <u>BB-09</u> (Drying NOS)
dyeing	see <u>AA-20</u> (Pigmentation/Dyeing)
electric power generation	see <u>JJ-01</u> (Production of Electricity, Steam, Facility Heat)
electrocoating	see <u>AA-04</u> (Electrostatic Coating Methods)
electroless plating (barrel)	see <u>AA-14</u> (Electroless Plating [Barrel])

electroless plating (rack)	see <u>AA-15</u> (Electroless Plating [Rack])
electroplating (barrel)	see <u>AA-12</u> (Electroplating [Barrel])
electroplating (rack)	see <u>AA-13</u> (Electroplating [Rack])
electropolishing	see <u>BB-04</u> (Removal by Chemical Means)
electrostatic coating methods	see <u>AA-04</u> (Electrostatic Coating Methods)
electrostatic powder coating	see <u>AA-04</u> (Electrostatic Coating Methods)
electrostatic spray coating	see <u>AA-04</u> (Electrostatic Coating Methods)
embossing	see <u>CC-06</u> (Forming by Mechanical Means NOS)
equipment cleaning	<i>see codes listed above under "cleaning of production equipment"</i>
etching	see <u>BB-04</u> (Removal by Chemical Means)
extrusion	see <u>CC-02</u> (Extrusion/Drawing)
filling	see <u>GG-03</u> (Packaging/Filling)
flame and arc cutting	see <u>BB-08</u> (Removal by Application of Heat or Energy)
flexographic printing	see <u>AA-05</u> (Letterpress & Flexographic Printing)
flow coating	see <u>AA-01</u> (Dip, Flow & Curtain Coating)
foam molding	see <u>CC-01</u> (Casting/Molding)
forging	see <u>CC-03</u> (Forging)
forming by mechanical means NOS	see <u>CC-06</u> (Forming by Mechanical Means NOS) mechanical forming processes other than casting/molding (CC-01), extrusion/drawing (CC-02) or forging (CC-03)
galvanizing	see as appropriate: <u>AA-17</u> (Hot Dip Coating of Metal) <u>AA-12</u> (Electroplating, Barrel) & <u>AA-13</u> (Electroplating, Rack), if galvanizing is by electroplating

gravure printing	see <u>AA-07</u> (Gravure)
gravure coating	see <u>AA-07</u> (Gravure)
grinding	see as appropriate: <i>codes listed below under "removal of mass from substrate"</i> <u>GG-02</u> (Particle Size Reduction) for grinding of chemicals, as in grinding of paint pigments
heat exchange unit	see <u>II-02</u> (Heat Exchange Unit)
heat treating	see <u>CC-04</u> (Heat Treating NOS)
hobbing	<i>see codes listed below under "removal of mass from substrate"</i>
hot dip coating (of metal)	see <u>AA-17</u> (Hot Dip Coating of Metal)
hot stamping	see <u>AA-10</u> (Printing Using Carrier Films or Foils) (printing)
hot tin dipping	see <u>AA-17</u> (Hot Dip Coating of Metal)
implantation	see <u>AA-22</u> (Impregnation/Implantation)
impregnation	see <u>AA-22</u> (Impregnation/Implantation)
in-mold decorating of plastics	see <u>AA-10</u> (Printing Using Carrier Films or Foils) using films or foils
infiltration	see <u>AA-21</u> (Infiltration/Saturation)
injection molding	see <u>CC-01</u> (Casting/Molding)
ion implantation	see <u>AA-22</u> (Impregnation/Implantation)
jet printing	see <u>AA-11</u> (Jet Printing)
knife coating	see <u>AA-03</u> (Knife/Spread/Roll Coating)
knife over roll coating	see <u>AA-03</u> (Knife/Spread/Roll Coating)
kraft paper saturation	see <u>AA-21</u> (Infiltration/Saturation)
laser cutting	see <u>BB-08</u> (Removal by Application of Heat or Energy)

lathing	<i>see codes listed below under "removal of mass from substrate"</i>
letterpress printing	see <u>AA-05</u> (Letterpress & Flexographic Printing)
lithographic printing	see <u>AA-06</u> (Lithographic)
machining	<i>see codes listed below under "removal of mass from substrate"</i>
materials storage/handling	see as appropriate: <u>GG-01</u> (Blending, Mixing, Compounding) <u>GG-02</u> (Particle Size Reduction) <u>GG-03</u> (Packaging/Filling) <u>GG-04</u> (Materials Storage Handling NOS)
mechanical plating	see <u>AA-16</u> (Mechanical Plating)
metal (flame) spraying	see <u>AA-19</u> (Deposition)
milling	<i>see as appropriate: codes listed below under "removal of mass from substrate"</i> <u>GG-02</u> (Particle Size Reduction) as in the use of grinding mills
mixing	see <u>GG-01</u> (Blending, Mixing, Compounding)
molding	see <u>CC-01</u> (Casting/Molding)
neutralization	if neutralization is a step in a coded process, use that code for that process, for example, if neutralization is a step in dyeing, the appropriate code would be <u>AA-20</u> (Pigmentation/Dyeing)
use <u>EE-08</u>	if neutralization is used in the manufacture of a chemical, (pH Adjust)
nitriding	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
nitrocarburizing	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
noncontact cooling	see <u>II-04</u> (Noncontact Cooling NOS) (where cooling fluid is kept separate from the production process)
packaging	see <u>GG-03</u> (Packaging/Filling)

pad printing	see <u>AA-09</u> (Pad Printing)
particle size reduction	see <u>GG-02</u> (Particle Size Reduction), for processes such as the grinding of paint pigments
passivating	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
pH control	see <u>HH-03</u> (pH Control of Process Water [including water in of process water boilers] NOS)
photolithography	see <u>AA-06</u> (Lithographic)
phosphatizing	see <u>AA-18</u> (Anodizing, Conversion Coating & Case Hardening [through diffusion])
pickling (of metals)	see <u>BB-04</u> (Removal by Chemical Means)
pigmentation	see <u>AA-20</u> (Pigmentation/Dyeing)
polishing	<i>codes listed below under "removal of mass from substrate," if material is removed from work piece</i>
polishing (continued)	<u>CC-06</u> (Forming by Mechanical Means NOS) if material is <u>not</u> removed from work piece
powder metallurgy	see <u>CC-10</u> (Sintering/Powder Metallurgy)
pressure treating (wood)	see <u>AA-22</u> (Impregnation/Implantation)
printing using	see <u>AA-10</u> (Printing Using Carrier or Filmcarrier films or Foils)

 **NOTE:** some mechanical "removal" processes (e.g., polishing) can be used either to remove material or to smooth the surface of a product without removing material. The code for such mechanical surface "smoothing" is CC-06 (Forming by Mechanical Means NOS).

pulping (in paper making)	see as appropriate: <u>BB-05</u> (Removal by Mechanical Means - Gross Mass Removal) <u>BB-06</u> (Removal by Mechanical Means - Fine Mass Removal) <u>BB-07</u> (Removal by Chemical & Mechanical Means)
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punching	<i>see codes listed below under "removal of mass from substrate"</i>
quenching	see <u>CC-05</u> (Quenching)
refrigeration	see <u>II-01</u> (Refrigeration)
regeneration of deionization resins	see <u>HH-01</u> (Deionization, Demineralization)
removal of mass from substrate	<p>refers to processes which can be used to a work product, generally, excluding the removal of dirt or grease cleaning as in removal</p> <p>The six removal codes are:</p> <p><u>BB-04</u> (Removal by Chemical Means)</p> <p><u>BB-05</u> (Removal by Mechanical Means -- Gross Mass Removal), to be used if process removes pieces or chips</p> <p><u>BB-06</u> (Removal by Mechanical Means -- Fine Mass Removal/ Size Reduction), to be used if process produces fine particles or dust</p> <p><u>BB-07</u> (Removal by Chemical & Mechanical Means)</p> <p><u>BB-08</u> (Removal by Application of Heat or Energy)</p> <p><u>BB-09</u> (Drying NOS) for drying work products</p>
repackaging	see <u>GG-03</u> (Packaging/Filling)
reverse roll coating/printing	see <u>AA-03</u> (Knife/Spread/Roll Coating)
rinsing	see <u>BB-02</u> (Aqueous Cleaning of Product or Parts)
roll coating	see <u>AA-03</u> (Knife/Spread/Roll Coating)
rolling	see <u>CC-06</u> (Forming by Mechanical Means NOS)
rotary screen printing	see <u>AA-08</u> (Screen Printing)
sand blasting	<i>see codes listed above under "removal of mass from substrate"</i>

sanitizing (production equipment)	<i>see codes listed above under "cleaning of production equipment"</i>
saturation	see <u>AA-21</u> (Infiltration/Saturation)
sawing	<i>see codes listed above under "removal of mass from substrate"</i>
semi-aqueous cleaning	see <u>BB-01</u> (Solvent-Based Cleaning of Product or of work product parts)
scouring (textile products)	<i>see codes listed above under "cleaning of work product"</i>
screen printing	see <u>AA-08</u> (Screen Printing)
shearing	<i>see codes listed above under "removal of mass from substrate"</i>
sintering	see <u>CC-10</u> (Sintering/Powder Metallurgy)
soldering	see <u>CC-08</u> (Soldering/Brazing)
solvent-based cleaning	see <u>FF-01</u> (Solvent-Based Production Equipment of production equipment Cleaning)
solvent-based cleaning	see <u>BB-01</u> (Solvent-Based Cleaning of Product or of work product Parts)
solvent drying	see <u>BB-09</u> (Drying NOS), for the use solvents to dry a product or work piece
spray coating	see <u>AA-02</u> (Spray Coating) (does not include electrostatic spray coating)
electrostatic spray coating	see <u>AA-04</u> (Electrostatic Coating Methods) for
spread coating	see <u>AA-03</u> (Knife/Spread/Roll Coating)
sputtering	see <u>AA-19</u> (Deposition)
steam generation via combustion	see <u>JJ-01</u> (Production of Electricity, Steam, Facility Heat)
straightening	see <u>CC-06</u> (Forming by Mechanical Means NOS)
tempering	see <u>CC-04</u> (Heat Treating NOS)

trimming	<i>see codes listed above under "removal of mass from substrate"</i>
tumbling	<p>see as appropriate:</p> <p><u>AA-16</u> (Mechanical Plating), if tumbling is used to plate <i>codes listed above under "removal of mass from substrate,"</i> if tumbling is used to remove mass from a work product, such as tumbling to deburr</p> <p><u>CC-06</u> (Forming by Mechanical Means NOS), if tumbling is used to smooth a work product without removing mass turning <i>see codes listed above under "removal of mass from substrate"</i></p>
ultrasonic cleaning of parts	<i>see codes listed above under "cleaning of work product"</i>
use of biocides	see <u>HH-02</u> (Treatment of Process Water: Use of in process water/cooling towers Biocides/Disinfection)
use of squeegees/wiper blades/rags	<i>see codes listed above under "cleaning of production equipment"</i> to clean production equipment
vacuum impregnation	see <u>AA-22</u> (Impregnation/Implantation)
vacuum metallizing	see <u>AA-19</u> (Deposition)
vapor degreasing	<i>see codes listed above under "cleaning of work product"</i>
water deionization	see <u>HH-01</u> (Deionization, Demineralization)
water chlorination Biocides/Disinfection	see <u>HH-02</u> (Treatment of Process Water: Use of
water softening	see <u>HH-01</u> (Deionization, Demineralization)
welding	see <u>CC-09</u> (Welding)

Appendix I

PRODUCTION UNITS

The Form S contains both facility-wide and process-specific information. Facilities report information on the quantity of chemical used and the amount generated as byproduct (waste) on a facility-wide level. Any progress in reducing byproduct through the implementation of toxics use reduction is measured and reported at the process (or "production unit") level.

A **production unit** is "a process, line, method, activity, or techniques, or a combination or series thereof, used to produce a product or a family of products."

A **product** means "a product, family of products, an intermediate product, a family of intermediate products, or a desired result or family of results."

A **result** is, for example, clean laundry after an industrial cleaning process.

A **family of products** is, for example, three different rubber compounds grouped together as one product.

Intermediate product is, for example: A chemical manufacturer produces methanol as an intermediate step in the production of formaldehyde. The methanol can be considered a product.

With these definitions TURA gives facilities flexibility in how they divide their facility into production units:

- A production unit can include all of the processes used to produce an individual item such as a particular shade of paint or a plated knife, or that produce a desired result such as cleaned out lines and mixing vats.
- Products can be grouped together into a family of products so that, for instance, all of the processes used to create several different shades of paint could be considered one production unit.
- An individual process step such as degreasing coupled with the result of that step (for example, a degreased piece of metal), can be considered a separate production unit.
- Separate process lines that make the same product can be considered as one production unit.

For guidance on factors that should be considered when establishing production units, please refer to MassDEP's "Guidelines for Classifying Production Units". This can be obtained on the MassDEP web site at

<http://www.mass.gov/dep/toxics/laws/policies.htm>.

In addition to identifying production units, facilities must also establish a "unit of product." There are two basic explanations for a decline in the quantity of chemical generated as byproduct: There could have been a drop in production levels, or, through the implementation of TUR, less byproduct could have been generated per unit of product produced.

In order to distinguish byproduct reductions that occur through declines in production from those that occur because of the implementation of TUR, production level reporting is done on a "per unit of product" basis.

As with production units, facilities are free to select the unit of product. The key to choosing a unit of product is that the measure should be a reliable indicator of changes in production levels. The unit of product should be one that reliably increases or decreases as production goes up or down. The Guidelines for Classifying Production Units discusses considerations for selecting a unit of product.

In most cases, an acceptable choice will be a physical measure such as pounds of ammonia manufactured by the production unit or square yards of printed fabric.

✓ Example

Example	Units of Product
No. of Products/year	No. of wood chairs
Square feet/year	square feet of anodized parts
Pounds/year	pounds of formaldehyde produced
Gallons/year	gallons of paint produced

Sometimes, however, it may not be possible to identify a physical measure that reliably reflects outputs. In such a case, a non-physical measure may be used as a way to quantify changes in production. Examples of this may include: hours of operation, labor hours, and dollar sales.

Non-physical measures can be affected by things that have nothing to do with changing levels of production. For instance, dollar sales will be influenced by changes in inflation, or perhaps, by product pricing. Labor hours might be less reliable if there has been a mid-year shift to automation, making output more efficient.

If you chose a non-physical unit of product, you must provide a written explanation as to why a physical measure cannot be used. You must also state how the non-physical measure has been adjusted to accurately reflect production levels rather than changes in costs, prices, inventory, productivity or other factors.

Appendix J

GLOSSARY

Alloy: a substance possessing metallic properties and composed of two or more elements of which at least one must be a metal. The term refers to those cases where there is an intentional addition to a metal for the purpose of improving certain properties.


Byproduct: Nonproduct outputs of toxic or hazardous substances generated by a production unit, before handling, transfer, treatment or release. Otherwise used substances shall be counted as byproduct when they leave a production unit.

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act, commonly referred to as “Superfund.”

EPCRA: Emergency Planning and Community Right to Know Act.

Facility: all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person, or by any person who controls, is controlled by, or is under common control with such person.

Full-Time Employee Equivalent: An FTE is defined as 2,000 work hours per year. The 10 FTE criteria is met if a total of 20,000 hours were worked by all employees (including consultants) whether they worked full or part-time.

 **Note**: repackaging the chemical is considered processing.

Higher Hazard Substance: means a substance designated by the Council as a higher hazard substance pursuant to M.G.L. c. 21I, § 9 and 301 CMR 41.00.

Included NAICS/SIC Codes: This is one of the areas where TURA’s requirements differ from those of EPCRA.

Under TURA, the NAICS/SIC code criteria is met if any of your business activities are conducted in the areas represented by TURA’s longer list of included NAICS/SIC codes. The TURA list includes manufacturing plus business activities such as transportation, wholesale trade, and business or personal services.

EPCRA reporting is only required of firms that derive more than 50% of their business from **manufacturing**. For the descriptions of the NAICS/SIC codes, see Appendix A.

Lower Hazard Substance: means a substance designated by the Council as a lower hazard substance pursuant to M.G.L. c. 21I, § 9 and 301 CMR 41.00.

Manufacture: to produce, prepare, import or compound a toxic or hazardous substance. Manufacture shall also mean to produce a toxic or hazardous substance coincidentally

during the manufacture, processing, use, or disposal of another substance that is separated from that other substance or mixture of substances as a byproduct, and a toxic substance that remains in that other substance or mixture of substances as an impurity.

Otherwise Use: EPA has revised it's definition of OTHERWISE USE to mean 'any use of a toxic chemical, including a toxic chemical contained in a mixture or other trade name product or waste, that is not covered in the terms "manufacture" or "process." Otherwise use of a toxic chemical does not include disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction unless:

A. The toxic chemical that was disposed, stabilized, or treated for destruction was received from off-site for the purposes of further waste management; or

B. The toxic chemical that was disposed, stabilized, or treated for destruction was manufactured as a result of waste management activities on materials received from off-site for the purposes of further waste management activities. Relabeling or redistributing of the toxic chemical where no repackaging of the toxic chemical occurs does not constitute otherwise use or processing the toxic chemical.

Process: the preparation of a toxic or hazardous substance, including, without limitation, a toxic substance contained in a mixture or trade name product, after its manufacture, for distribution in commerce:

- ☐ in the same form or physical state, or in a different form or physical state from that in which it was received by the toxics user preparing such substance; or
- ☐ as part of an article containing the toxic or hazardous substance.

Product: a product, a family of products, an intermediate product, family of intermediate products, or a desired result or a family of results. "Product" also means a byproduct that is used as a raw material without treatment.

Sanitized vs. Unsanitized Reports: If you make a Trade Secret claim, you must submit two versions of your report -- one that contains the Trade Secret information (**unsanitized**) and one that does not (**sanitized**). In Item g. in Section 1 of the Form S Cover Sheet, indicate whether the version of the report is sanitized or unsanitized.

Shipped in or as Product: the quantity of the chemical that leaves the facility as product.



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Commonwealth of Massachusetts
Deval L. Patrick, Governor

Executive Office of Energy & Environmental Affairs
Richard K. Sullivan Jr., Secretary

Department of Environmental Protection
Kenneth L. Kimmel, Commissioner